Environmental Sub-Committee of the WCAC

Agenda for Meeting

Friday, March 24, 2017 at 2:00pm

Town Hall, 159 Pantigo Rd, East Hampton, NY 11937

Attendees:	Frank Dalene	Virginia Edwards	Carolyn Logan-Gluck
	Susan Macy	Simon Kinsella	Kathee Burke-Gonzalez
	Sara Davision	Kim Shaw	Bruce Solomon
	Rick Del Mastro		

Approval of Minutes

Approval of the minutes from the prior ESC meeting on January 6, 2017 *(see attached).*

Guest Speakers

- Suffolk County Legislator Bridget Fleming
- Associate Hydrogeologist Ron Paulsen of Suffolk County Department of Health Services

To discuss water quality within Wainscott with specific reference to –

a) A survey of private drinking water wells within Wainscott, especially those living around or down-stream from the Pit. The proposed survey should test for drinking water contaminants such as hexavalent chromium and other contaminants which form part of the EPA's Unregulated Contaminant Monitoring Rule (UCMR) program.

b) How the Suffolk County Comprehensive Water Resource Management Plan may impact the Hamlet of Wainscott. *(see plan attached)*

The primary objective of the proposed survey of private wells is to increase Wainscott residents' confidence in drinking water drawn from private wells located immediately above the shallow aquifer and to ensure that drinking water from such wells is healthy.

Request for the Protection of the Wainscott Hydrologic System (Si Kinsella)

The final version of the Request for the Protection of the Wainscott Hydrologic System within the Hamlet of Wainscott. *(see attached)*

Info. Pack – Innovative Septic Systems (Sara Davision) –

Engineers & Architects who attended Suffolk County Training *(see attached)*

Subsequent developments since the East End Informational Session (Dec 9, 2016)

Fuel Farm for East Hampton Airport (Frank Dalene) –

- Fuel Farm for East Hampton Airport, Bid No. EH16-048 *(see attached)*
- East Hampton Press Article of January 24, 2017 *(see attached)*
  East Hampton To Borrow $1.6 Million For New Fuel Storage At Airport

Well contamination north of East Hampton Airport (Frank Dalene) –

- Suffolk County Water Level Monitoring Wells Map *(see attached)*
  of October 1, 2016

East Hampton Town Up-date (Kathee Burke-Gonzalez & Kim Shaw)

- Congratulations to Members Burke-Gonzales and Shaw for the Town's eligibility for a $100,000 grant from the New York State Energy Research and Development Authority (*please see article attached*).
- Update/overview of new environmental developments that have come to the attention of East Hampton Town since the ESC's last meeting.

Immediate Contaminant Concerns –

a) Hexavalent Chromium (Si Kinsella)
b) Diethylene Dioxane (Susan Macy) (*please see Hannon Report attached)*

Other Business
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Next ESC Meeting: Date/Time

Close of Meeting

Contaminants of Interest – *contaminated waters predominate near agricultural lands* –

- *Simazine* – an herbicide manufactured by Novartis, which the electric company uses to defoliate its utility substations. It has not been banned, though the EPA suspects it's a human carcinogen.
- *Aldicarb (Temik)* – a Union Carbide insecticide used on potato crops. It was voluntarily withdrawn from Long Island in 1979. Temik was banned in 1990, but approved for reintroduction in some western states five years later. It is a nerve toxin, said to be 10 times more poisonous than cyanide. It was found as well in private East Hampton wells on Long Lane and in the Georgica Association in 1999 and also in private wells on Town Line Road and Beach Lane in Wainscott.
- *Carbofuran* – used on potato and corn fields until it was banned in 1982. Found in monitoring wells on Buell Lane, East Hampton in 1999.
- *Dinoseb* – manufactured by Dow Elanco and used on potatoes, strawberries, and corn until it was banned in 1986. Found in monitoring wells on Buell Lane, East Hampton in 1999. The EPA banned dinoseb (a pre-emergent herbicide), because of its potential to cause birth defects. Long-term exposure can affect the thyroid, testes, and intestines.
- *Dichloropropane* – a soil fumigant used on potato farms from the 1950s through the 1980s, was found on Town Lane and Hollow Road in Wainscott in 1999.
- *Atrizine* – an herbicide found nearby Montauk Highway in Amagansett in 1999.
- *Alachlor*
- *Aldicarb Sulfoxide& Aldicarb Sulfone*
- *bis 2-ethylhexylphthalate (DEHP)*
- *Chlordane*
- *Tetrachloroterephthalic Acid (dacthal matabolite TCPA)*
- *Kehtylene Dibromide (EDB)*
- *1,2,3-Tricholopropane*
- *Dichloropro pane*

Recommended Reading –

Ground Water and Surface Water: A Single Resource
U.S. Geological Survey Circular 1139
By Thomas C. Winter, Judson W. Harvey, O. Lehn Franke, William M. Alley
An online copy can be downloaded for free (in PDF format) from the following link –
https://pubs.usgs.gov/circ/circ1139/pdf/circ1139.pdf

An atlas of Long Island's Water Resources: by Cohen, Philip, Franke, O.L.,; Foxworthy, B.L
An online copy can be downloaded for free (in PDF format) from the following link –
https://archive.org/stream/usgswaterresourcesnewyork-ywrc_bull_62/nywrc_bull_62#page/n0/mode/2up

Environmental Sub-Committee (ESC) of the Wainscott Citizens Advisory Committee (WCAC)

Minutes of the Meeting held on
Friday, January 06, 2017 at 1:00pm
Town Hall, 159 Pantigo Rd, East Hampton, NY 11937

Present: Simon Kinsella, WCAC Member & Chairman
Frank Dalene, WCAC Member
Rick Del Mastro, WCAC Member
Virginia Edwards, WCAC Member
Susan Macy, WCAC Member
Sara Davison, Friends of Georgica Pond Foundation, Inc.
Kathee Burke-Gonzalez, Councilwoman, East Hampton Town Board
Kim Shaw, Natural Resources Director, East Hampton Town

Excused: Carolyn Logan Gluck, WCAC Member & Secretary
Bruce Solomon, WCAC Member

Minutes

The minutes for the ESC meeting of November 18, 2016 were unanimously approved

Advanced Septic Treatment

Member Davision updated ESC on the Advanced Septic Treatment Information Session presented by Suffolk County on December 9, 2016. The New York State DEC regional director Peter Scully introduced the program. As a result of the Suffolk County Comprehensive Water Resource Management Plan of 2015, Suffolk County has been testing nitrogen-removing waste disposal systems for residential use to address the problem of nitrogen pollution in the water supply.

Two systems made by two different manufacturers, Hydro-Action Industries and Norweco, have recently been approved and an additional four are expected to be approved shortly. These systems use a series of tanks, pumps, and aerobic bacteria to denitrify waste. They require annual maintenance and are not designed for seasonal use (i.e. they have to be operated year-round). Other systems have been approved elsewhere in the U.S. which are even more sophisticated and effective and also more expensive. Member Dalene mentioned Act 2 Technologies, a high-end system that has yet to be approved by Suffolk County.

Member Davision presented ESC with a list of professionals (nine) who successfully completed Suffolk County's "Design, Installation and Maintenance of Innovative Alternative Septic Systems" training (as at Oct 7, 2016). These professionals are trained to assist with selection, design, and permitting of nitrogen removing septic systems on the East End (attached).

Member Kinsella suggested the ESC keep an "information package" that can be given to households within Wainscott with the view to assisting them with upgrading their septic/cesspool system. The Septic Info Pack would be continually updated with the latest developments.

Member Edwards informed ESC that a group of Wainscott Residents who reside on Hedges Lane will be attending the WCAC meeting on January 7, 2017 to voice their concerns about cement dust and dirt emanating from the Pit.

Airborne Hexavalent

Member Del Mastro is to provide ESC with an up-date as to the nature and danger posed by airborne hexavalent chromium and whether there is a method to assess and/or quantify the risk posed by airborne hexavalent chromium contamination nearby the Pit at the next ESC meeting. The goal is to establish air quality criteria that would have to be met before any site plan could be approved. He reiterated the problem with dust build-up on Georgica Drive and the increase in the height of the road level due to repaving on the street.

ESC Water Testing Program

Kim Shaw reviewed Suffolk County Health Department Wainscott test well results. She noted there were no detects that exceeded EPA limits in wells along the East and West sides of the groundwater flow in the area (pointed out on a map – not attached). She mentioned there is a new test well off Wainscott Stone Road that will be routinely monitored. Kim noted that there is only one public well in Wainscott located on Wainscott Northwest Road just beyond Home Goods. All other wells are private wells and stars on the above-referenced map (not attached) indicate there has not been any sampling in a long time, maybe as long ago as 2006. She said the WCAC can play a role in triggering the installation of profile wells in the area by bugging the local legislature and health department to do additional studies in the area. Suffolk County will not because detect levels are too low. Kim emphasized the private wells should be tested either by the county health department or by private companies.

The plan for a program for Wainscott home owners, especially those living around or down-stream from the Pit, to co-ordinate having their drinking water tested for hexavalent chromium (and other UCMR's) was discussed. The program would encourage and inform Wainscott residents about having their drinking water tested with the idea that the more people who joined such a program, the lower the cost would be per household. If successful, the program could be extended to test for other drinking water contaminants that form part of the EPA's Unregulated Contaminant Monitoring Rule (UCMR) program.

Kim stressed that the DEC does not recognize citizen science. The use of certified labs to do the sampling and a legitimate chain of custody would be critical to the effectiveness of such an initiative.

Frank cautioned the WCAC not come to any premature conclusions regarding a connection between water from the Pit and the contaminated well located North of the airport on Town Line Road. Si emphasized how little is known about the flow of water around Georgica and Wainscott Ponds.

The question of cost to have a Wainscott group sample water arose. Si guessed around $10,000 (SCHD charges $100/household). Asking Tintle to join in the water sampling program also was suggested.

The additional question of how to test the water at the site of the Pit also was raised. Kim noted that concrete mix facilities are not regulated by the NYS DEC and thus are not subject to inspection per se. However, because permits are issued for a variety of purposes, access can be gained. The tanks located at the Pit must be inspected by the Office of Pollution Control (OPC). It was suggested that Si write a letter to Town Attorney Michael Sendlenski asking him to ask the OPC for water testing at the Pit.

The ultimate goal of the proposed well survey program was clarified by Member Kinsella: to increase confidence and guarantee that water drawn up by private wells from the shallow aquifer is drinkable. It was decided that the plan to put a package together for private water testing be placed on hold until the next ESC meeting.

Member Burke-Gonzalez is going to invite Bridget Fleming and Doug Feldman from the SC Health Department to speak at the next ESC meeting to be held in mid-March, 2017 (on a Monday or Friday). Citizens of Wainscott are concerned about the quality of water drawn from private wells because of troubling results from public wells. What can be done to enlighten them? How many samples over what areas and for what compounds should be taken? Could the legislature/town supervisor be asked to arrange for more extensive well surveys in the area?

Immediate Contaminant Concerns –

a) Hexavalent Chromium – Member Kinsella presented to ESC a letter from Dr. James L. Tomarken, addressed to Town Attorney Michael Sendlenski RE: Member Kinsella's request to have Wainscott's drinking water tested for hexavalent Chromium. Member Kinsella thought that the letter was inconclusive. It was suggested that Member Kinsella write to Town Attorney Michael Sendlenski and request that the surface water in the cement pools be test when Suffolk County next visit the site to ensure that the storage tanks are not leaking and comply with Suffolk County code. The last such site visit was in December 2015.

   No new developments.

b) Diethylene Dioxane – Member Macy received an email from the Citizens Campaign for the Environment (CCE) stating that preliminary analysis shows 1,4 dioxane was not detected or was detected at levels below the EPA cancer risk guideline of 0.35 micrograms/liter in all community supply districts on the Southfork, including District 23 which serves Southampton and East Hampton, with the exception of District 26 which serves Montauk where levels were 1.43 micrograms/liter. The CCE will be releasing a report and map in January 2017.

Request for the Protection of the Wainscott Hydrologic System

Member Kinsella discussed the draft Request for the Protection of the Wainscott Hydrologic System ("Hydrologic Protection Request") before it's tabled at the full WCAC meeting on January 7, 2016. In the interests of expediency, the draft request was not only emailed to ESC members, but also emailed to WCAC members so that they may have more than a night to read the request.

This request stems from the proposal made at the public hearing regarding the Suffolk County wastewater plan. It advocates for a coordinated approach to protecting all water bodies. Of note are the areas around Georgica and Wainscott Pond where the water table is especially shallow and susceptible to surface water contamination. Parts of these are not protected by either the Harbor Protection Overlay District (HPOD) or the Water Recharge Overlay. According to Frank, there is another overlay, the Suffolk County special groundwater protection area north of the highway. Sara mentioned there is no HPOD on the village side of Georgica Pond.

Kim pointed out that Suffolk County Comprehensive Water Resources Management Plan (CWRM) addresses these issues, notably groundwater travel time and impacts a propos development (since zoning is the first layer of protection). She reiterated the suggestion that the WCAC invite Doug Feldman to speak about both well surveys and the Comprehensive Plan.

There followed a discussion of an awareness campaign and other initiatives to encourage more organic gardening and public education regarding water testing and safety (since the Health Department unit concerned with testing has been dissolved) and outreach to the community.

Larry Cantwell stressed that the issue concerning groundwater is not so much supply as safety. As an aside, he also mentioned that the hamlet study presents an opportunity to decide what should become of the Wainscott Sand and Gravel Pit cautioning it is an opportunity not to be lost.

It was decided that for a period of one (1) week anyone could comment on the Hydrologic Protection Request, and should it please the WCAC, finalize the request and send it to the consultants for the Wainscott Hamlet Study: Dodson & Flinker, Inc., 40 Main Street, Suite 1, Florence, MA 01062 (copied to the Town Board).

DEC Shinnecock Bay/Atlantic Ocean Watershed Assessment

Waterbody Inventory & Priority List - Assessment Report, June 20, 2016 (attached):

- Georgica Pond (1701-0145) Impaired
- Wainscott Pond/Fairfield Pond (1701-0144) Impaired

Due to time constraints, this report will be raised at the next ESC meeting.

Request for the Protection of the Hydrologic System within the Hamlet of Wainscott

From the Environmental Sub-Committee of the Wainscott Citizens' Advisory Committee

January 31, 2017

Harry L. Dodson
Dodson & Flinker
40 Main Street, Suite 101
Florence, Massachusetts 01062

sent via eMail only

Dear Mr. Dodson,

The Environmental Sub-Committee (ESC) of the Wainscott Citizens' Advisory Committee (WCAC) request that the Wainscott Hamlet Study include greater protection for the hydrologic system within the Hamlet of Wainscott. The hydrologic system comprises the interrelationship between groundwater (aquifers), surfacewater (ponds, tributaries, beaches and lakes) and watersheds (catchment areas).

The Central Business District (CBD) within Wainscott (including the industrial area), has a direct impact upon the hydrologic system. If Wainscott is to continue to have uncontaminated fresh water, the CBD's impact upon the hydrologic system has to be taken into consideration in the Wainscott Hamlet Study.

As you are aware, within the Hamlet of Wainscott is the single largest watershed catchment area that remains largely free from dense urban development. This catchment area filters water directly into the aquifers beneath that serve as the main reservoirs of fresh drinking water for the Town of East Hampton. Not only do these catchment areas offer natural protection for our fresh water, but they also feed the unique ecosystems and wildlife refuges of Georgica Pond, Wainscott Pond, and the beaches along the Atlantic Ocean. This is Wainscott's micro-hydrologic system.

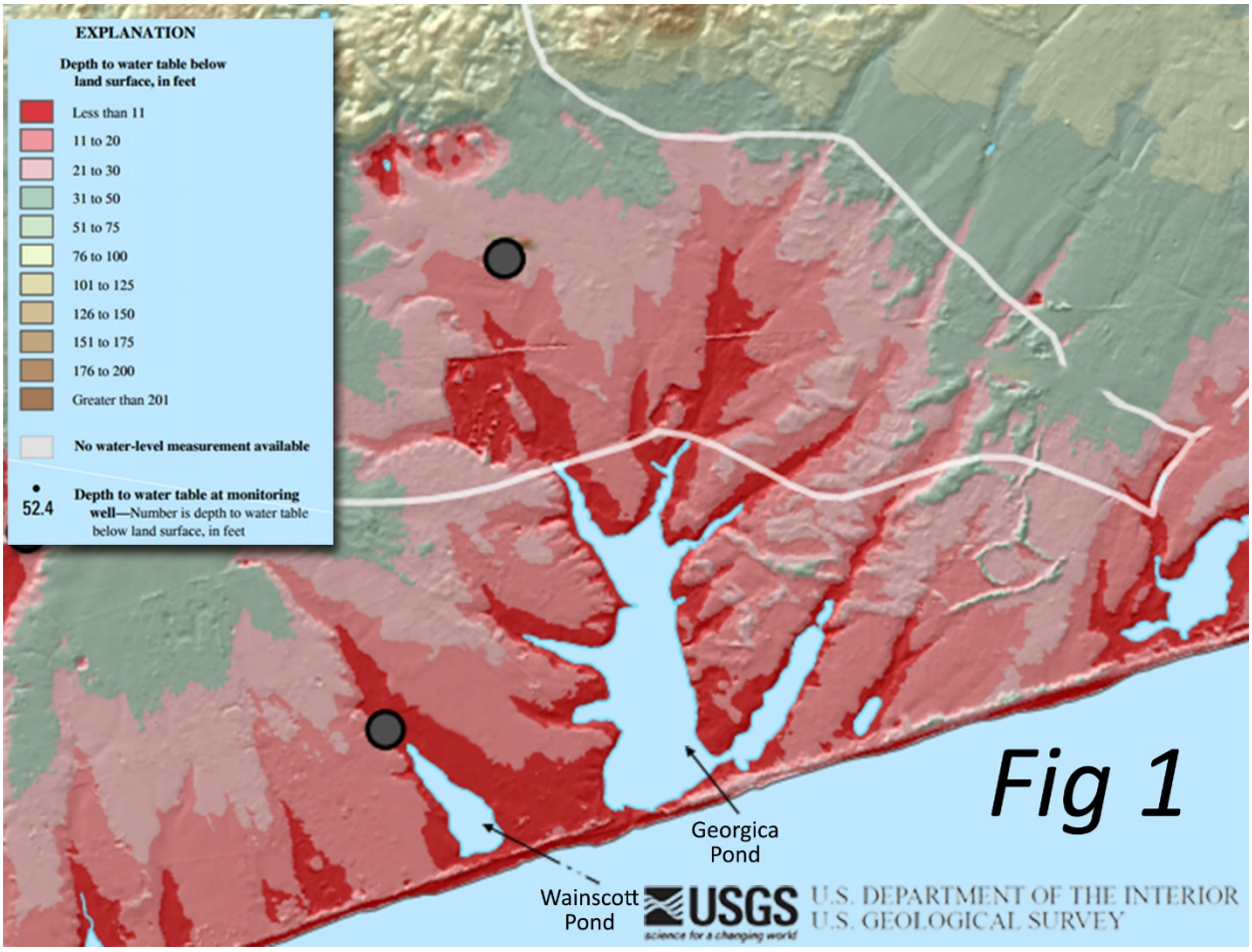
The catchment areas, aquifers, ponds and beaches are inextricably linked by a hydrologic system that needs to be treated as a singular whole system. By treating in isolation only one subset of the hydrologic system, we ignore potential issues upstream at the source and also potential ramifications downstream. For example, by treating nitrate contamination in private drinking water wells by installing reverse osmosis systems, home owners will eliminate excessive nitrate contamination from their drinking water, but the underlying groundwater contamination from excessive nitrogen loading at the source will continue to feed the problem, thereby requiring home replacement of reverse osmosis filters *ad infinitum*. Home reverse osmosis systems would be a temporary solution that would serve to mask the underlying problem. Without addressing the whole hydrologic system, whatever solution we implement would be at best temporary.

Despite admirable efforts to protect Wainscott's hydrologic system with designations such as the East Hampton Town Water Recharge Overlay and the Harbor Protection Overlay, a significant part of Wainscott remains unprotected and its environment is suffering as a direct consequence.

New Designated Area of Protection

The US Department of the Interior in US Geological Survey Circular 1139 (published 1999) identifies "*shallow aquifers that are directly connected to surface water*", such as Wainscott Pond and Georgica Pond, as containing "*much of the ground-water contamination in the United States*". This circular continues: "*In general, shallow ground water is more susceptible to contamination from human sources and activities because of its close proximity to the land surface."*

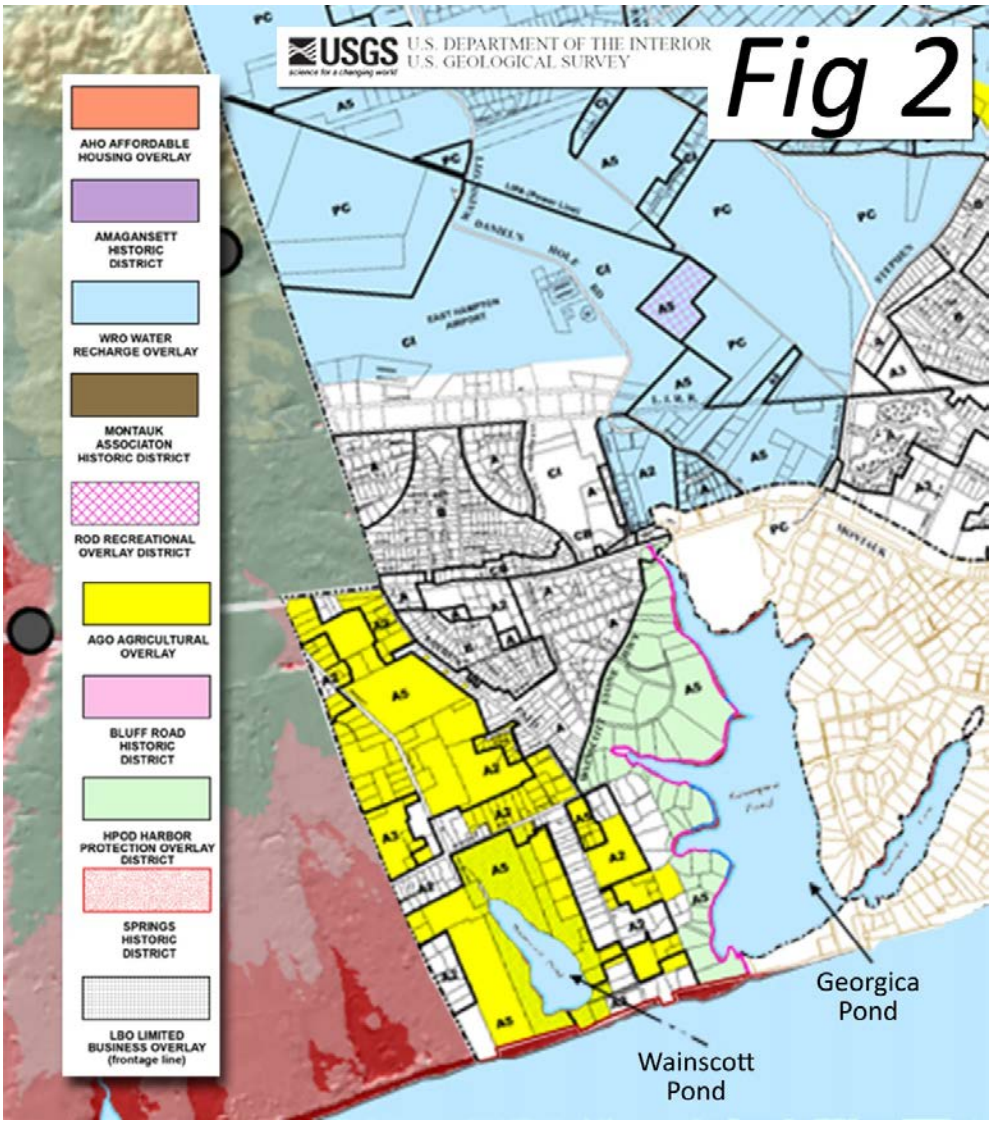
Despite the susceptibility of Wainscott's shallow aquifers which are directly connected within the hydrologic system to both Wainscott Pond and Georgica Pond, the only area within Wainscott that offers some degree of protection is the deeper groundwater aquifer beneath the East Hampton Water Recharge Overlay. The more susceptible shallow aquifer immediately to the north and adjacent to Wainscott and Georgica Ponds is marked in red on the US Geological Survey (see Fig 1).



The Town of East Hampton Zoning Map for Wainscott (see Fig 2), shows the Water Recharge Overlay stopping about the southern boundary of East Hampton Airport (the blue shaded area in Fig 2 below). Notably, the Water Recharge Overlay excludes the industrial area incongruously located in the centre of Wainscott (and also excludes Wainscott's entire CBD along Montauk Highway).

It could be argued convincingly that where the aquifer is most susceptible is exactly where East Hampton Town has historically permitted industrial activities which are of the greatest threat to the fresh water aquifer.

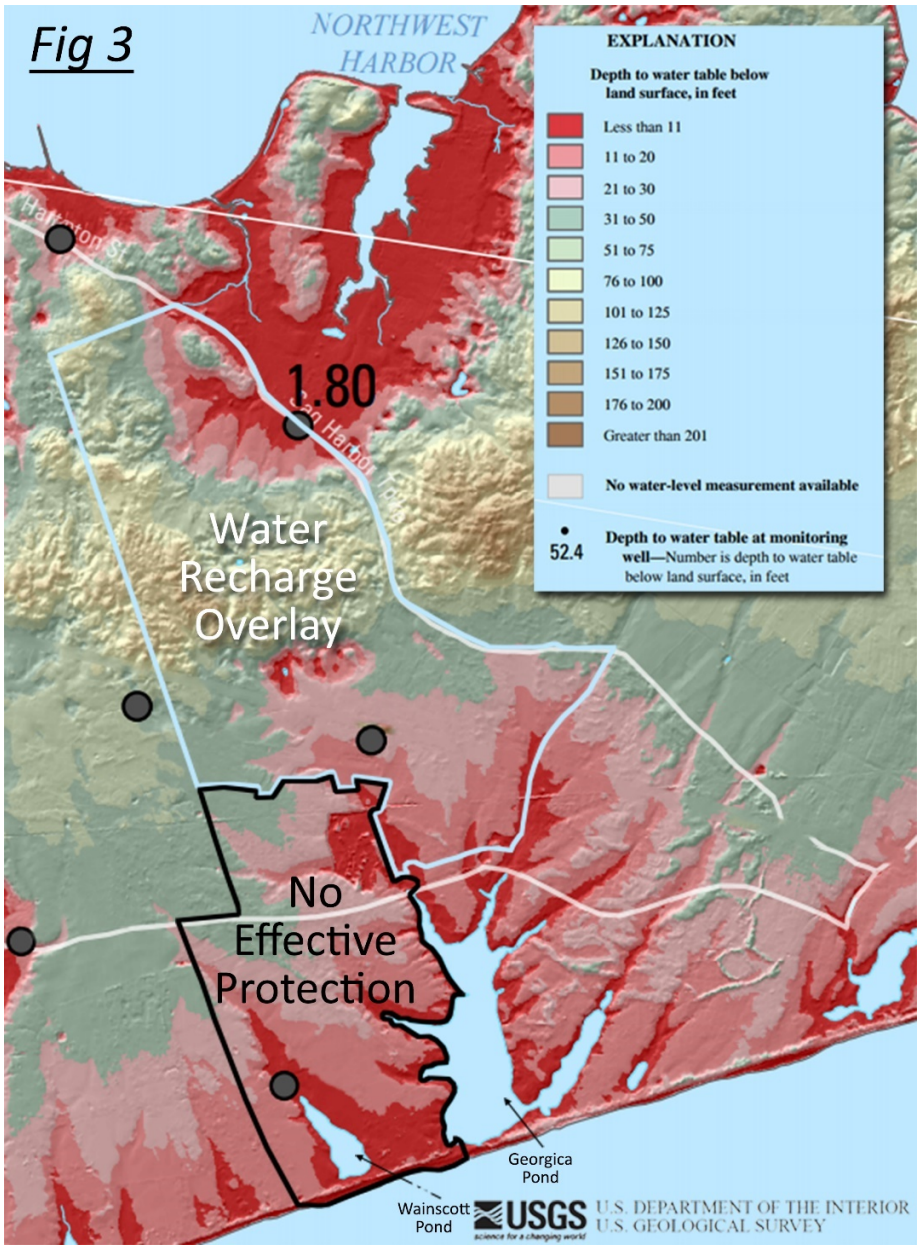
The two other designated areas, namely the Agricultural Overlay (shaded in yellow in Fig 2 below) and the Harbor Protection Overlay (shaded in green in Fig 2 below), offer the micro-hydrologic system immediately about Wainscott and Georgica Ponds limited protection from human activities on the land surface where it tapers off to meet the surface water.



Within Wainscott there is no effective protection afforded the more susceptible shallow aquifer immediately to the north and adjacent to Wainscott and Georgica Ponds (please see Fig 3).

The consequences of not protecting our water are far reaching. The hydrologic system is our sole source of fresh drinking water and its delicate ebb and flow support not only aquatic life, but birds, otters, and other pond dwellers. Our water is our greatest source of pleasure, enjoyment, recreation and hence property values.

We already can see consequences of the misuse of land and subsequent contamination of groundwater with excessive nutrients. A few years ago we could fish or go crabbing in Georgica Pond, but due to nitrogen contamination and subsequent cyanobacteria and related toxins, fishing and crabbing are now too dangerous.



Excessive Nitrogen & Phosphorous

Only a few years ago, local baymen, Wainscott families, and visitors could harvest blue crabs, trap eels, and catch white bait and white perch directly from Georgica Pond – but our ponds are now closed to fishing and crabbing due to dangers posed by microcystin (a gastrointestinal toxin) and anatoxin (an acute neurotoxin). Both toxins are synthesised by cyanobacteria.

At the request of the WCAC in April 2016, the Trustees of the Town of East Hampton voted to approve sampling Wainscott Pond weekly (beginning May, 2016) for analysis by Professor Christopher J. Gobler, Ph.D. of the School of Marine and Atmospheric Sciences at Stony Brook University. The results (below and overleaf) are cause for concern.

The table below lists the cyanobacteria and toxins that were detected in Georgica and Wainscott Ponds last summer[1].

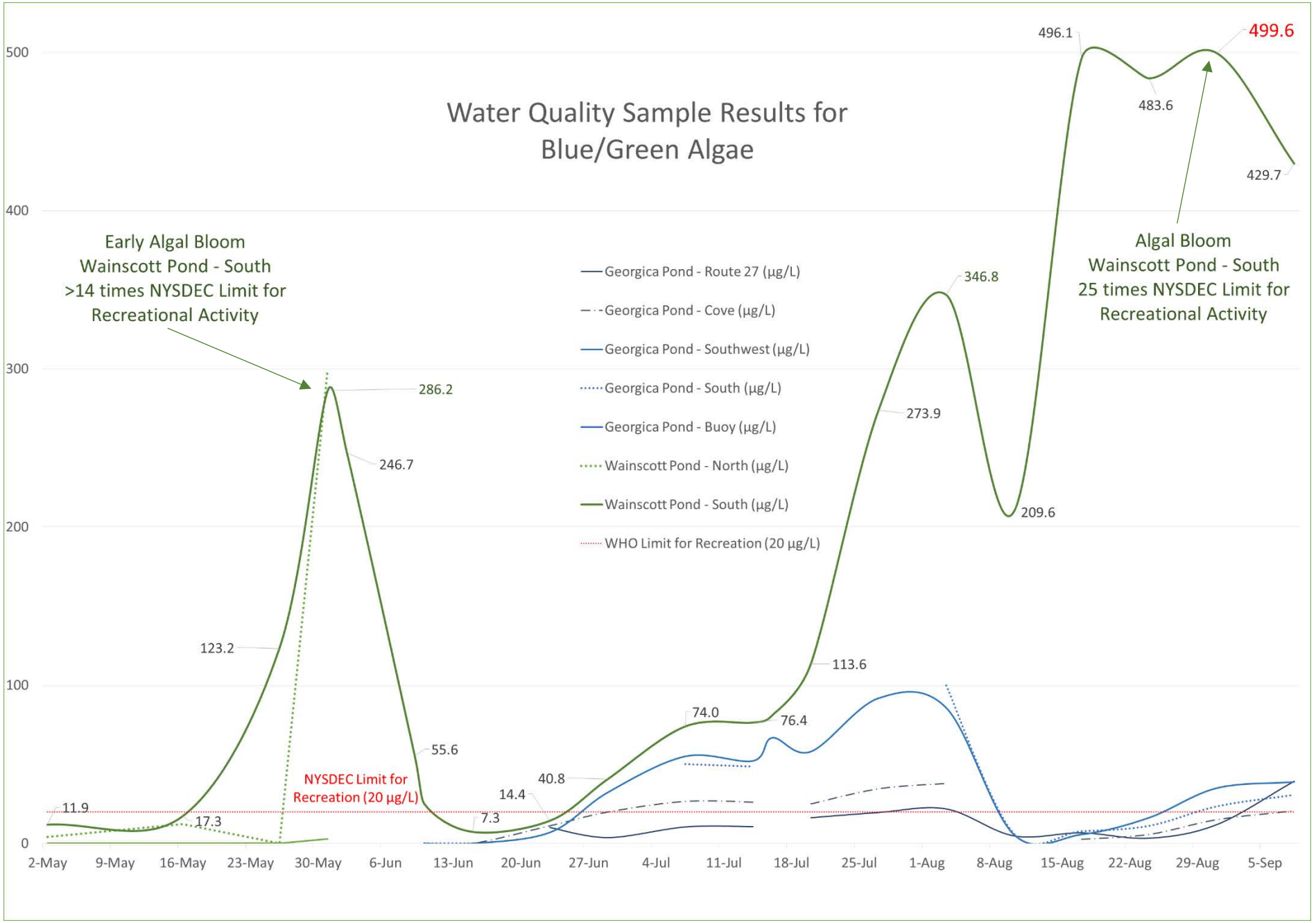
Cyanobacteria Genus	Toxin Synthesis Class	Dates Detected in Wainscott Pond	Dates Detected in Georgica Pond
Anabaena spiroides	Neurotoxins, Hepatotoxins & Dermatotoxins	May 31 / June 2 & 9 / July 20 & 27 / August 3, 10, 17, 24 & 31 / September 8	July 7 & 14 / August 3 & 9
Aphanocapsa	Hepatotoxins & Dermatotoxins	June 29	
Aphanizomenon	A cyanobacteria known to produce Cylindrospermopsin (hepatotoxin & nephrotoxic), Anatoxin-a (acutely neurotoxic), Saxitoxin (potently neurotoxic) and BMAA (neurotoxin)		June 29 / July 7, 14, 16, 20 & 27 / August 3 & 9
Planktothrix			August 3 & 9
Microcystis viridis	Hepatotoxins	July 14 & 20 / August 10, 17, 24 & 31 / September 8	

Hepatotoxins: disrupt proteins that keep the liver functioning.
Neurotoxins: cause rapid paralysis of skeletal and respiratory muscles.
Dermatotoxins: produce rashes and other skin reactions.
Nephrotoxins: poisonous effect of the kidney.

The graph (overleaf) highlights the dangerous situation with regard to Wainscott Pond, which had an average concentration of cyanobacteria last summer[2] of 186 µg/L, with a high of 499.6 µg/L. The high was recorded on August 31, 2016 and was twenty-five times the NYSDEC limit of 20 µg/L.

Due to the tremendous work done by The Friends of Georgica Pond Foundation, Inc., Georgica Pond had a significantly lower average concentration of cyanobacteria during last summer[2] than did Wainscott Pond, although the average concentration of cyanobacteria in Georgica Pond was still too high at 30 µg/L with a high of 99.8 µg/L. The high was recorded on August 3, 2016 and was five times the NYSDEC limit.

[1] From May 2, 2016 to September 8, 2016
[2] From May 2, 2016 to September 8, 2016


Water Quality Sample Results for Blue/Green Algae
Early Algal Bloom
Wainscott Pond - South
>14 times NYSDEC Limit for Recreational Activity
Algal Bloom
Wainscott Pond - South
25 times NYSDEC Limit for Recreational Activity
Georgica Pond - Route 27 (µg/L)
Georgica Pond - Cove (µg/L)
Georgica Pond - Southwest (µg/L)
Georgica Pond - South (µg/L)
Georgica Pond - Buoy (µg/L)
Wainscott Pond - North (µg/L)
Wainscott Pond - South (µg/L)
WHO Limit for Recreation (20 µg/L)
NYSDEC Limit for Recreation (20 µg/L)
499.6
496.1
483.6
429.7
346.8
286.2
273.9
246.7
209.6
123.2
113.6
74.0
76.4
55.6
40.8
14.4
11.9
17.3
7.3
500
400
300
200
100
0
2-May
9-May
16-May
23-May
30-May
6-Jun
13-Jun
20-Jun
27-Jun
4-Jul
11-Jul
18-Jul
25-Jul
1-Aug
8-Aug
15-Aug
22-Aug
29-Aug
5-Sep

Cyanobacteria have also been detected in groundwater in the vicinity of Wainscott Pond. Thirteen samples taken between July 14 and 18, 2016, from a private well used for drinking-water that borders Wainscott Pond, all showed evidence of cyanobacteria with an average cyanobacteria concentration of 0.45 µg/L and a recorded high of 0.65 µg/L (on July 16, 2016). Although these levels are all below generally excepted Maximum Contamination Levels (MCL's), it should be noted that it is the first time we have detected cyanobacteria in fresh water drawn from the shallow aquifer.

Human fatalities due to cyanotoxin poisoning are very rare. The last known case occurred in Brazil (1988) following the flooding of the newly constructed Itaparica Dam in Bahia State. Some 2000 cases of gastroenteritis were reported resulting in 88 deaths[3]. In 2016, a blue-green algae bloom in Utah Lake[4] resulted in more than 100 individuals exposed to the bloom. experiencing vomiting, diarrhoea, fever, skin and eye irritation, and rashes.

We are pleased to say that we know of no one on the South Fork of Long Island who has been hospitalised due to cyanotoxin poisoning, but the threat of illness still remains a real possibility. Recent examples of animal deaths/illnesses resulting from cyanotoxin poisoning (caused by excessive nitrogen and phosphorous) occurred in –

- 2016, August – A dog drinking from Mecox Bay, Southampton, sickened.
- 2015, May 30 – Low oxygen levels caused a massive fish kill in Riverhead.
- 2015, May 13 – A toxic red tide caused by the algae *Alexandrium* which killed hundreds of diamondback terrapins that ate mussels containing *Alexandrium* and its 'saxitoxin' along Flanders Bay beaches.
- 2015 – Canine cyanotoxin poisoning, which sickened two dog that drank from Fort Pond.
- 2012 – Canine cyanotoxin poisoning, which killed a dog that drank from Georgica Pond.

Other Contaminants

Excessive nitrogen and phosphorous is the most immediate contamination problem we are facing, but there are other contaminants that should not be ignored. Wainscott still has residues of chemical contaminants in its groundwater which include: aldicarb (Temik), Chlordane, Alachlor, Dinoseb, dichloropropene, etc. which are results of past incidences of neglect. It would not do Wainscott any good to repeat past mistakes with new contaminants. New contaminants include, but are not limited to: hexavalent chromium, diethylene dioxane (1,4 dioxane), herbicides, insecticides, and unnecessary and excessive use of fertilizers (which contains phosphorous).

Please see request for the protection of the hydrologic system within Wainscott overleaf …

[3] Teixera et al., 1993

[4] http://deq.utah.gov/Divisions/dwq/health-advisory/harmful-algal-blooms/bloom-2016/utah-lake-jordan-river

Request

With the aim of protecting the hydrologic system within Wainscott, we request that –

1. A new area designated for the protection of Wainscott's groundwater, surfacewater and watershed be created to include the area marked "No Effective Protection" (see Fig 3 above) –

    - Eastern Boundary: From the Atlantic Ocean along the western shoreline of Georgica Pond to where it meets to Montauk Highway, and from there northward along Hedges Lane to Industrial Road (including lots immediately north of Industrial Road);
    - Northern Boundary: From Daniel's Hole Road along Industrial Road (including lots immediately north of Industrial Road) to Town Line Road;
    - Western Boundary: From Industrial Road along Town Line Road to the Atlantic Ocean; and,
    - Southern Boundary: From Town Line Road along the Atlantic Ocean (mean high-water mark) to where Georgica Pond meets the Atlantic Ocean.

    This new area designated for the protection of water includes the –

    - Entire business district of Wainscott along Montauk Highway
    - Industrial area within Wainscott which hosts operations which currently release contaminants into the water aquifer
    - Residential neighbourhoods
    - Farmland

    It is recognised that such an area of protection requires input, co-operation and agreement with existing property owners, especially those property owners who derive their livelihood from farming and depend upon farming activities. No new area of water protection can, nor should, be proposed without agreement among local residents and farmers.

2. The residential neighbourhoods around both Georgica Pond and Wainscott Pond be designated areas of critical priority with the regard to the installation of nitrogen-reducing cesspool systems;

3. Regulations/guidelines on excessive use of herbicides, insecticides and fertilizers be developed to minimize further contamination of the groundwater, surfacewater and watershed within Wainscott, including within the newly designated area of water protection (referred to in paragraph 1 above);

4. Monitoring of excessive withdraws of groundwater from the hydrologic system with an enquiry as to whether penalties or restrictions are necessary to discourage excessive withdrawals; and,

5. Funding be sought for a study to provide critical information regarding data gaps that –

   - Support the long-term LI NAP, including detailed documentation on the impact of excessive nitrogen loading and excessive use of phosphates about Wainscott Pond and Georgica Pond;
   - Include detailed analysis of groundwater flows and the hydrologic systems that feed into both Wainscott Pond and Georgica Pond;
   - Document the ecosystems of both Georgica Pond and Wainscott Pond, including the flora and fauna (breeding life-cycles). Please note that Wainscott Pond is a wildlife refuge and that Georgica Pond is used for fishing and crabbing.
   - Any funding should be directed towards to an independent scientific organisation commissioned to undertake the study with preference given to a locally-based body of University students/scientists.

We submit this request to the consulting firm of Dodson & Flinker, that is conducting the Wainscott Hamlet Study on behalf of the Town of East Hampton, documenting our findings, requesting assistance and to raise awareness of the issue of hydrologic contamination in Wainscott, and to establish a path forward that includes a comprehensive public health and environmental response.

We ask Dodson & Flinker to review and to investigate the continuing problems plaguing our hydrologic system, and to develop priorities for local agencies to respond and to address our concerns regarding contaminated water.

Respectfully submitted,

Si Kinsella
On behalf of the Environmental Sub-Committee
of the Wainscott Citizen's Association

c/c: Larry Cantwell, Town Supervisor
Peter Van Scoyoc, Deputy Supervisor
Kathee Burke-Gonzalez, Council Person
Sylvia Overby, Council Person
Fred Overton, Council Person
via eMail

Wainscott Citizens' Advisory Committee (WCAC)
via eMail to individual members

Environmental Sub-Committee (of the WCAC)
via eMail to individual members

Trustee Rick Drew
Trustees of the Freeholders and Commonalty of the Town of East Hampton
via eMail

Executive Director Sara Davison
Friends of Georgica Pond Foundation, Inc.
via eMail

Professor Christopher J. Gobler, Ph.D.
School of Marine & Atmospheric Sciences
Stony Brook University
via eMail

Director Nancy Kelley
The Nature Conservancy
Long Island Chapter
via eMail

Senator Kemp Hannon
Chair, Senate Health Committee
The Senate, State of New York
State Capitol, Room 420
Albany, NY 12247

Commissioner Basil Seggos
Department of Environmental Conservation
625 Broadway
Albany, NY 12233-1010

Senator Tom O'Mara
Chair, Senate Environmental Conservation Committee
Legislative Office Building, Room 307
Albany, NY 12247

Associate Editor Joanne Pilgrim
The East Hampton Star
via eMail

Professionals who can assist with selection, design, and permitting of nitrogen removing septic systems on the East End

Name		Company	Address			Phone	Email
Briton	Bistrian	Britton Bistrian-Land Use Solutions	P.O. Box 2756	Amagansett	NY	11930 631-921-2919	britton@brittonbistrian.com
Edward	Armus	Edward Armus Engineering	36 Deer Run	Water Mill	NY	11976 631-726-0113	ed@armusengineering.com
Vincent	Gaudiello	The Raynor Group	P.O. Box 720	Water Mill	NY	11976 631-726-7600	gaudiello@raynorgroup.net
Martin	Hand	Hands on Land Surveying	26 Silverbrook Dr.	Flanders	NY	11901 631-369-8312	mhandls@yahoo.com
Thomas	Houghton	The Raynor Group	P.O. Box 720	Water Mill	NY	11976 631-726-7600	tom.houghton@raynorgroup.net
Steve	Maresca	SLM Associates	188 W Montauk Hwy	Hampton Bays	NY	11946 631-728-9480	steve@slmeresca.com
Bryan	McGowin	Advanced Water Solutions/Hall & Wright	P.O. Box 1622	Southampton	NY	11969 910-795-4445	bmcgowin@gmail.com
David	Rhoades	TF Engineering	P.O.Box 596	Sag Harbor	NY	11963 631-740-7273	info@tfe.pe
Bob	Smith	Squires, Holden, Weidenbacher, & Smith	46 Jagger La	Southampton	NY	11968 631-283-0412	shws@hamptons.com

Completed Suffolk County's "Design, Installation and Maintenance of Innovative Alternative Septic Systems" training

Has not taken training as of this date, but knowledgeable

List as of 10/07/16

Bid Number:	Bid No. EH16-048
Bid Title:	Fuel Farm for East Hampton Airport
Category:	Bid Notices
Status:	Closed
Additional Status Information:	Extended until February 27, 2017, due no later than 3:00pm

Description:

NOTICE TO BIDDERS

Notice is hereby given that sealed bids for the following public works contract will be received by the Purchasing Office of the Town of East Hampton, 159 Pantigo Road East Hampton, New York no later than 3:00 p.m. prevailing time on Wednesday, January 25, 2017 at which time they will be opened and publicly read aloud:

Fuel Farm for East Hampton Airport
Bid No. EH16-048

Specifications may be examined and obtained at the Purchasing Office between the hours of
9:00 a.m. and 4:00 p.m., Monday through Friday, excluding holidays.

All bidders are strongly urged to attend a pre-bid meeting, for EH16-048 on Wednesday, January 11, 2017 at 11:00 a.m. The meeting will be at the East Hampton Airport, located at 200 Daniels Hole Road, East Hampton, NY.

The Town of East Hampton reserves the right to reject and declare invalid any or all bids and to waive any informalities or irregularities in the proposals received, all in the best interests of the Town.

Each proposal must be submitted on the forms provided in the bid package, in a sealed envelope with the name of the bidder, and the bid name marked clearly on the outside of the envelope. A 10% bid deposit and a Certificate of Non-Collusion must accompany all bid submissions.

Jeanne Carroza, CPPB
Purchasing Agent
Town of East Hampton
December 22, 2016

Publication Date/Time:

1/11/2017 8:00 AM

Closing Date/Time:

2/27/2017 3:00 PM

Submittal Information:

Due No Later Than 3:00pm February 27, 2017

Return To Main Bid Postings Page

CONTACT US

159 Pantigo Road
East Hampton, New York 11937

Phone: 631-324-4141

Staff Directory

QUICK LINKS

Emergency Notification Systems

Emergency Preparedness for People With Special Needs

Emergency Telephone Numbers

RESOURCES

East Hampton Town Trustees

Village of East Hampton

East Hampton Housing Authority

USEFUL LINKS

Map of Beaches and Parking

Public Libraries

Recreational Programs

27east powered by The Southampton Press and The East Hampton Press

Jan 24, 2017 12:04 PMPublication: The Southampton Press

East Hampton To Borrow $1.6 Million For New Fuel Storage At Airport

UPDATEDJan 24, 2017 1:15 PM
By Michael Wright

East Hampton Town approved borrowing up to $1.65 million for the construction of a new above-ground fuel farm at East Hampton Airport that the town hopes to have operational by mid-summer 2017.

The town is currently seeking bids to construct the aircraft refueling facility, which will more than double the on-site storage capacity for jet fuel and aviation gasoline at the airport.

The present fuel storage facility holds 12,000 gallons of jet fuel and 8,000 gallons of gasoline and in the summer season must be refilled by tanker trucks twice a day several days a week.

The town sells some 800,000 gallons of aviation fuel per year.

The new farm, as designed, will have two 15,000-gallon jet fuel tanks and a 12,000-gallon gasoline storage tank.

All of the new tanks will be aboveground. The existing tanks are belowground and will be removed once the new facility is up and running.

The new fuel farm is the latest move by the town to improve the facilities at the airport, even as officials battle in court for the authority to restrict the number of flights in and out of the airport. The town has pledged to appeal to the U.S. Supreme Court after a federal court ruled earlier this year that the town could not impose curfews or limits on the number of flights at the airport.MICHAEL WRIGHT

Well
S 8844.1

Well
S 58925.1

Well
S 46524.1

Well
S 58959.1

Well
S 8833.2

Well
S 46527.1

Well
S106189.1

Well
S 8838.1

Wainscott
Well
S 60123.1

http://apps.suffolkcountyny.gov/health/waterlevelmonitoringwells.html

THE EAST HAMPTON STAR
SHINES FOR ALL

100 Grand For Clean Energy

The town is eligible for the grant as it has met the criteria to become a "clean energy community,"

By Joanne Pilgrim | March 16, 2017 - 2:53pm

East Hampton Town is continuing its focus on achieving its goal of using 100 percent renewable energy, and an expected $100,000 state grant will give a boost to those efforts.

The town is eligible for the grant, issued by the New York State Energy Research and Development Authority, as it has met the criteria to become a "clean energy community," Kim Shaw, East Hampton's director of natural resources, reported recently to the town board.

To do so, she said, East Hampton has completed several "high-impact actions," as designated by NYSERDA, to "implement clean energy actions, save energy costs, create jobs, and improve the environment," according to the agency.

The initiatives, overseen by the town's Natural Resources Department, have included converting streetlights to energy-efficient LED technology, instituting a Clean Fleet program by using alternative-fuel vehicles and installing electric vehicle charging stations, training building inspectors in implementation of the state building code regarding energy efficiency, creating an incentive program for the installation of solar energy systems, and adopting a "benchmarking" program, a policy through which the town tracks and reports on energy usage in its buildings while identifying ways to reduce energy waste and publicly reporting that progress.

At a meeting of the town board last week, Ms. Shaw recommended using the $100,000 award to replace lighting in at least seven town buildings with energy-efficient systems and to obtain new electric cars and charging stations.

Six charging stations could be installed throughout the town not only to serve the town's cars but to encourage residents to choose electric vehicles as well. In addition to the overall NYSERDA grant, Ms. Shaw said, the town would be eligible for rebates on leases for the electric cars of up to $5,000 from the state and up to $7,000 in federal money.

Advanced technology will allow fast charging of the cars, which are expected to be able to travel 140 miles on each charge, Ms. Shaw said.

The town's Human Services Department has been using hybrid electric cars, Councilwoman Kathee Burke-Gonzalez said, but the seven hours required to recharge them compromises their efficiency.

The new lighting will not only be paid for by the grant money, Councilman Peter Van Scoyoc pointed out, but will provide ongoing savings to the town on energy costs.

The board will have to formally approve the projects for which the NYSERDA money will be used and submit that information to the state for final approval and issuing of the grant.

At a January meeting, Supervisor Larry Cantwell had pressed for a focus on solar energy installations. However, for this grant program, Ms. Shaw explained, the funded projects must be completed within a short time period, and planning for a solar installation would take too long.

Nonetheless, the Natural Resources Department, she said, is analyzing the feasibility of solar energy installations on various town buildings. Those projects could be funded using other grant programs.

Grant money is currently available, she said, for installing solar power systems at affordable housing sites such as the St. Michael's senior housing and Windmill affordable apartment complexes, and that possibility is being studied, she said.

About the Author

Joanne Pilgrim

Associate Editor

From:	Si Kinsella
To:	Bruce Solomon; Carolyn Logan-Gluck; Frank Dalene; Kathee Burke-Gonzalez; Kim Shaw; Rick Del Mastro; Sara Davision; Susan Macy; Virginia Edwards
Cc:	Rick Drew, Town Trustees; Edwina@PerfectEarthProject.org
Subject:	Hannon Report on Water Quality & Contamination
Date:	Sunday, February 26, 2017 3:16:00 PM
Attachments:	NYS Senate_2017-01-03_Hannon Water Quality Report.pdf EPA_2017-02-23_National Primary Drinking Water Regulations.pdf

Dear ESC Members,

If you have the time, please read my summary (below) of the recently released Hannon Report on Water Quality & Contamination dated January 3, 2017. This report is the result of the NYS Senate and Assembly Health and Environmental Conservation Committees' public hearings to which I submitted written testimony last year. The full report (of 23 pages) is attached.

The Hannon Report also provides a very good overview of the U.S. and New York State legal framework with regards to water quality (on pages 4-7), which I have not summarized in this email.

For your convenience, I've also attached the National Primary Drinking Water Regulations which are referred to in the Hannon Report.

All my best,
Si

Grants for Water Quality Related projects

The report mentions the following organizations which provide grants for water quality related projects –

- NYS Environmental Facilities Corporation (EFC) to provide $400 million (SFY 2016-17) in grants to municipalities for water quality improvement projects, including both drinking water and sewage treatment infrastructure … This funding allows for grants of up to $3 million, or 60 percent of eligible project costs.
- The State Water Quality Improvement Project (WQIP) Program is another competitive grant program to improve water quality, reduce polluted runoff and restore water bodies and aquatic habitats in each region of the state. There is a total of $35 million available under the WQIP.
- The Wastewater Infrastructure Engineering and Planning Grant Program administered by the DEC in conjunction with the EFC, offers grants to municipalities to help pay for the initial planning of eligible Clean Water State Revolving Fund (CWSRF) water quality projects.

Summary of Pertinent Testimony

- Commissioner Basil Seggos, Department of Environmental Conservation announced that the DEC is to provide a total of $5 million to Stony Brook University's Center for Clean Water Technology to conduct research on removing emerging contaminants from drinking water, and administer grants to water suppliers for pilot programs. Furthermore, Commissioner Seggos testified that

nitrogen pollution is one of the biggest threats to water quality in Long Island.

- Steve Bellone, Suffolk County Executive testified as to vast areas in the County where sewering is not a practical or economical solution. To this day, nearly 3 out of 4 homes in Suffolk County are still unsewered. Given a vast majority of nitrogen pollution is derived from septic systems and cesspools on residential properties, the solution lies in the use of individual active treatment systems that treat for nitrogen, instead of cesspools and septic systems, which do not.

- Stanley Carey, Vice Chairman of the Long Island Water Conference testified regarding Long Island's uniqueness as it relies entirely on water supplied through underground aquifers, which face unique challenges. Mr. Carey discussed the formation of the Long Island Commission on Aquifer Protection (LICAP), which was created in 2013 by a group of water utility representatives, elected officials and scientists, to assess the long-term health of Long Island's aquifer system and develop a blueprint for its protection. According to Mr. Carey, the water supply community is currently monitoring a variety of potential threats, including, 1,4-Dioxane, Volatile Organic Compounds, pharmaceutical and personal care products, nitrates and infrastructure issues. Mr. Carey urged the establishment of any new government entity not interfere with the formation of LICAP and that such entity not be granted broad new powers over the aquifer.

- Adrienne Esposito, Executive Director, Citizens Campaign for the Environment testified about a wide range of issues including but not limited to pharmaceutical pollution in water, policy solutions, nitrogen pollution and emerging contaminants in drinking water, specifically 1,4-Dioxane. 1,4-Dioxane is an emerging contaminant of great concern in Long Island's groundwater. Historically, 1,4-Dioxane was used as an industrial solvent but today it can be found in up to 46% of personal care products, including detergents, stabilizer, dishwashing soaps, shampoos, cosmetics, deodorants and body lotions according to Ms. Esposito's testimony. Recently, the Suffolk County Water Authority announced it had approval from the state Department of Health to build and use a treatment system to remove the chemical, 1,4-Dioxane which is the first of its kind approved in New York, however, Ms. Esposito continues to emphasize the importance of an EPA and/or state regulatory standard for the contaminant.

- Jennifer Garvey, Associate Director of the New York State Center for Clean Water Technology at Stony Brook University testified that their Center is charged with developing and commercializing more cost-effective technologies to address the water quality degradation issues their region is facing. The Center's initial efforts have been focused on removing nitrogen and other contaminants from wastewater at the household scale. They've been working on developing affordable, high performance systems that can replace or retrofit cesspools and septic systems. Ms. Garvey further testified that their team is preparing to install its first set of experimental pilot systems at Suffolk County residences as part of the Suffolk County Department of Health's Services' Innovative Alternative Pilot Program. Furthermore, Ms. Garvey concluded that given Long Island is poised to become an epicenter for enhanced decentralized wastewater treatment, continued investment by the state to create and support the conditions necessary to propel innovation and improve the cost-effectiveness of solutions is likely to produce significant and lasting results.

State Action to Date

Below is an overview of actions taken by New York State to date in response to the recent water quality crises.

Long Island

- On September 12, 2016, the state announced it will approve a pilot program for use of cutting-edge drinking water treatment technology to remove 1,4-Dioxane.
- Additionally, on September 12, 2016, the state announced it would provide $5 million for SUNY Stony Brook's Center for Clean Water Technology to develop state-of-the-art emerging contaminant treatment systems for drinking water.
- Also on September 12, 2016, the Senate and Assembly held a joint hearing in Long Island to address the water quality issues.

Recommendations of the Committees

After hearing the testimony and opinions of various individuals, the Senate Health and Environmental Conservation Committees recommend the following as a means to prevent what happened in Hoosick Falls from occurring in the future:

Drinking Water Quality Institute

While the Executive's establishment of a Rapid Water Quality Response Team is a start, there is still a much broader need for an independent entity charged specifically with focusing on the clean drinking water needs of the state. Similar to the Institute New Jersey established, which has been successful in setting contaminate levels and requiring testing to protect its state's drinking water, this body would be composed of public health experts, scientists, water purveyors and the Commissioners of the DEC and the DOH. Pulling together these experts to focus solely on the state's drinking water quality issues is a common sense approach to moving the state forward and ensure we make sound, informed decisions regarding drinking water quality. The institute would be charged with, among other things:

- Setting NYS specific requirements for unregulated contaminants that are more stringent than those under federal law or EPA health advisories by establishing maximum levels for contaminants of concern, and developing a list of contaminants for which testing is required by all public water suppliers;
- Establishing a clear notification process for municipalities and state agencies which must include clear and concise documents to be utilized to inform and guide the public regarding water quality issues and actual or potential threats; and,
- Conducting scientific studies or scientific based research as well as conducting public outreach, and ensuring state officials are educated and aware of the most up-to-date scientific research regarding water quality and contamination.

Immediate Agency Actions

There are a number of actions the agencies can and should take under their current authority, aside from the tasks delegated to the Drinking Water Quality Institute. These actions include:

- Creating a reverse 911 system or other system to handle complaints, potential threats and

hazards relating to drinking water contamination in real time;

- Creating a guidance document for the public and local municipalities outlining steps to be taken if they discover or suspect contamination;
- Pursuing all previous owners potentially responsible for the contamination to ensure they are held accountable and appropriately pay for remediation costs through the state Superfund Program and pursue options for covering the costs of medical monitoring for those at high risk;
- Increasing transparency and enhance interagency communication both amongst agencies within the state, neighboring states that are also grappling with the same issues, and federal agencies;
- Ensuring the state is adhering to health advisory levels instituted by the federal government;
- Providing the most recent cancer registry data on the State's Cancer Map, including an overlay of water sources so researchers and the public have the most accurate up-to-date information;
- Adopting a precautionary approach to protecting public health especially in instances where conclusive proof is likely unascertainable;
- Assuring through continuing education that staff is abreast of current scientific literature, guidance, and national standards; and
- Ensuring strong oversight and enforcement of current SPDES permits.

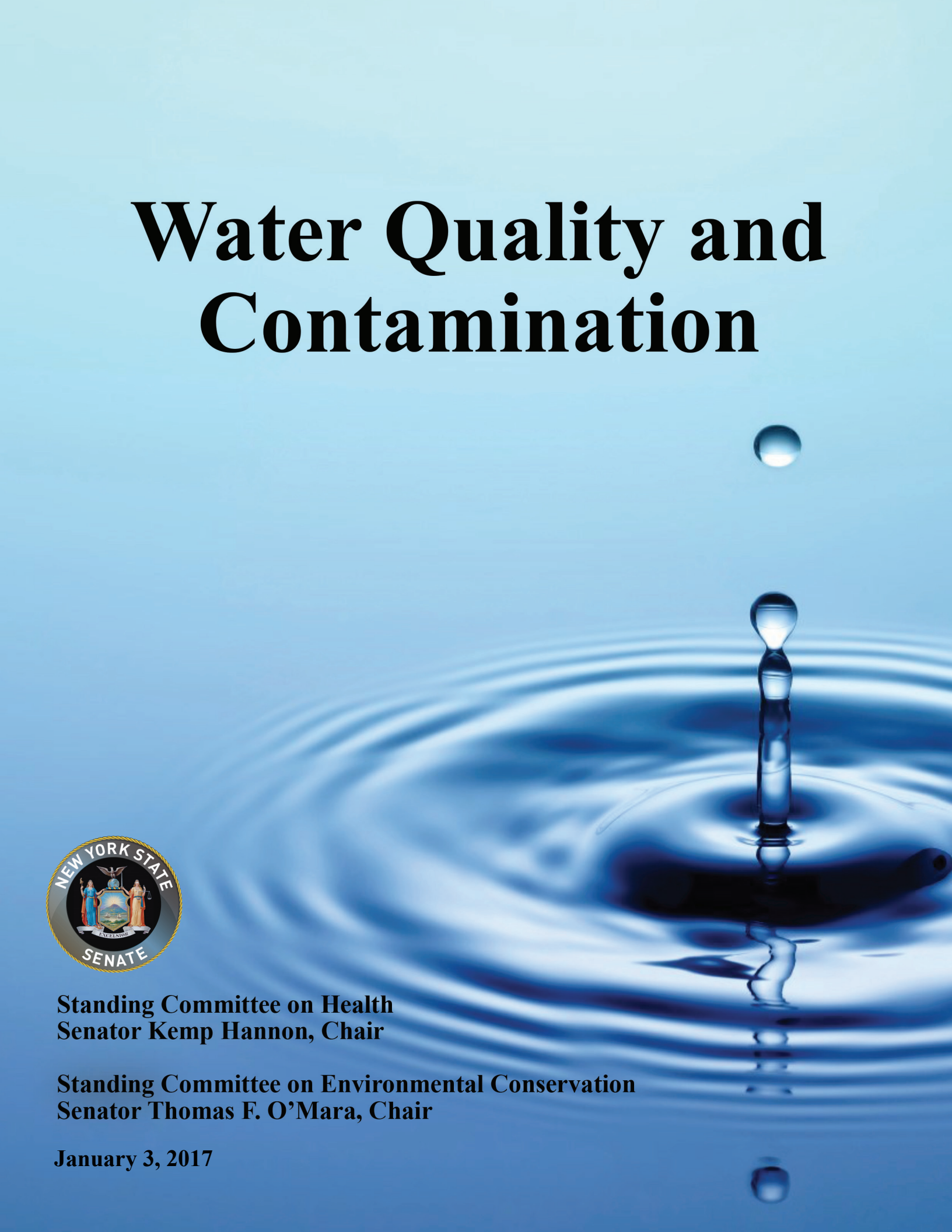
Funding

Throughout the hearings, there were continual calls for increased funding for a large variety of water quality measures ranging from funding for schools to replace old pipes found to contain lead, upgrading and evaluating wastewater treatments, tax deductions to replace old septic systems and funding to install individual activated treatment systems that treat nitrogen, to funding to address algae blooms. In order to try to meet these vast needs, the Executive should include funding in the 2017-18 budget and provide flexibility to address the varying needs of different communities throughout the state. This year's budget should also include a continuation of funding to support the state Superfund Program and continue to support the NYS Water Infrastructure Improvement Act of 2015, which authorized grants for municipalities to undertake water quality improvement projects.

Additionally, to meet ever growing needs of the state's aging water and sewage systems, the state should establish a Clean Water Bond Act. This will enable smaller and more rural communities to improve their water infrastructure without taking out loans, thereby preventing any costs being passed on to the residents. These funds could be available for implementation of new filtration systems, water testing, and other measures for areas that suspect or know they have a contamination issue and have not yet received the Superfund status that would make them eligible for such state funding.

NB: The hyperlink to the EPA's National Primary Drinking Water Regulations as printed in the report is incorrect.
The correct link is as follow –
https://www.epa.gov/ground-water-and-drinking-water/table-regulated-drinking-water-contaminants; or,
https://www.epa.gov/sites/production/files/2016-06/documents/npwdr_complete_table.pdf

Water Quality and Contamination



Standing Committee on Health
Senator Kemp Hannon, Chair

Standing Committee on Environmental Conservation
Senator Thomas F. O'Mara, Chair

January 3, 2017

TABLE OF CONTENTS

Executive Summary

In response to a burgeoning water quality crisis across New York State, the Senate and Assembly Health and Environmental Conservation Committees convened public hearings during the fall of 2016. The goal of these hearings was to provide an opportunity for legislators and the public to hear from state officials, experts, residents and others to gain an understanding of the problems as well as oversight responsibilities at the local, state and federal level with respect to water quality and contamination. These hearings provided a foundation upon which to begin building a framework for legislation and policies to ensure more appropriate responses to current and future water contamination occurrences.

In August, the Senate held its own public hearing in Hoosick Falls, focusing primarily on the Village's perfluorooctanoic acid (PFOA) water contamination. Hoosick Falls is the home of manufacturing facilities, currently owned and operated by Saint-Gobain, that used PFOA in the production of consumer goods for decades. There was also particular attention paid to the contamination at the site of Taconic Plastics in Petersburgh, NY, which likewise used PFOA in its manufacturing operations and has had significant contamination of local drinking water wells.

In September, two hearings were jointly held with the Assembly Health and Environmental Conservation Committees in Albany and Long Island respectively. While these hearings were more focused on statewide water quality and contamination, they also delved into water contamination issues involving perfluorinated compounds (PFCs), which include PFOA and PFOS. In Long Island there was a particular focus on the Northrop Grumman plume caused by chemicals such as trichloroethylene (TCE) used in aircraft manufacturing, nitrogen coming from septic systems and fertilizers, and other unregulated contaminates such as 1,4-Dioxane. At the Albany hearing there was additional testimony related to PFOA contamination in Hoosick Falls and Petersburgh as well as a particular focus on the City of Newburgh regarding the perfluorooctanesulfonate (PFOS) contamination of the public water supplies, which was caused by the use of firefighting foam at the Stewart Air Force Base. Throughout the hearings, legislators repeatedly urged the Department of Health (DOH) to promptly commit to conduct biomonitoring in the Newburgh community as was being done in Hoosick Falls.

All told, legislators heard over 33 hours of testimony from more than 75 presenters including state and local officials, industry and scientific experts, citizens, and advocacy groups. A full list of those who testified is attached and video and written testimony is archived at https://www.nysenate.gov/ under the events tab as well as under the Senate Health Committee and Environmental Conservation Committee tabs.

Saint-Gobain, Honeywell (former owner of the Hoosick Falls' facilities) and Taconic Plastics all declined the invitations to appear at any of the hearings. In response, the Senate Committees subpoenaed information from the companies and received hundreds of pages of documents related to the PFOA contamination in Hoosick Falls and Petersburgh. The Committees continue to work with these companies in order to ascertain all information relevant to the development of legislation and policies. The federal Environmental Protection Agency (EPA) also declined several invitations to testify but did provide written comments, which are included within the

written testimony. Since the EPA is a federal agency, the Committees were unable to compel attendance or the production of documents from this agency.

The testimony throughout the hearings demonstrated the need for a clear and accountable process to address water contamination. An independent body of experts is necessary in order to focus much needed resources solely on the quality of drinking water in the state. This body should be established and charged with recommending protocol and state specific standards. Additional funding resources are also necessary to adequately address emerging water quality issues and to assist communities in ensuring the safety of their drinking water. There were also a number of issues raised throughout the hearings that can and should be immediately addressed through administrative actions to ensure the state is, at a minimum, complying with federal standards and communicating to communities and residents in a clear and consistent manner.

Accordingly, in addition to providing background information and a summary of the hearings, this report offers a series of recommendations for administrative, legislative and budgetary actions. These actions are designed to prevent future failures of our public health system such as what happened in Hoosick Falls and instill confidence that the state is monitoring water quality, protecting the environment and ensuring communities have safe drinking water.

Federal and State Law, Regulation and Oversight

Federal Law, Regulation, and Oversight

The federal Safe Drinking Water Act (SDWA) allows the EPA to delegate to states the responsibility of implementing drinking water programs that are at least as stringent as the federal program. The SDWA authorizes states to assume primary enforcement responsibility or primacy, subject to federal oversight, if the state adopts the requirements within the SDWA. New York State's primacy was assigned by the EPA and accepted by the DOH in 1975. If the EPA determines that a primacy holding state is in violation of EPA standards, the EPA can hold public hearings and issue recommendations to bring them into compliance. The SDWA also authorizes the EPA to set national drinking water regulations, conduct special studies, and research and oversee implementation of the Act. In turn, states are responsible for administering and carrying out EPA regulations in order to protect public health and the environment.

The 1996 amendments to the SDWA directed the EPA to identify unregulated contaminants presenting public health concerns, determine whether or not to regulate at least five of these contaminants every five years, and develop a program for monitoring and reporting unregulated contaminants in drinking water. These unregulated contaminants can be found on the EPA's Contaminant Candidate List (CCL), a list of unregulated contaminants known or anticipated to occur in public water systems that pose the greatest public health risk and that may require regulation. Once every five years, the EPA must publish a new CCL of unregulated contaminants and determine whether or not to regulate at least five of those contaminants. Both PFOA and PFOS were listed on the CCL 3 which was finalized in August 2009.

The EPA has also established the Unregulated Contaminant Monitoring Rule (UCMR) program under the framework of the SDWA. Under the UCMR, the EPA identifies up to 30 unregulated contaminants and establishes a monitoring program to collect and analyze data on the extent of their presence in public drinking water supplies. Under this program, only water systems that serve a population of 10,000 or more and a representative sample of small public water systems serving less than 10,000 are required to test for these substances. For systems that serve below 10,000 people the EPA can make a specific determination to monitor water, in which case the water system is tasked with collecting samples to send to laboratories for testing. Upon receiving test results, the EPA forwards such results to the municipality. Water systems serving over 10,000 people must comply with UCMR monitoring schedules set by the EPA and test for the UCMR chemicals. All public water suppliers must include any UCMR required testing in their annual water quality report which goes to the federal and state government as well as consumers. The EPA does not regulate private well systems that serve less than 25 people for at least 60 days throughout a year and have no more than 15 service connections. The SDWA sets recurring five-year deadlines for the CCL, UCMR and regulatory determinations. The third Unregulated Contaminant Monitoring Rule (UCMR 3) program was published on May 2, 2012. It required monitoring of 30 contaminants between 2013 and 2015, including PFOA and PFOS.

The EPA added PFCs to the UCMR 3 in 2012, even before this designation, the agency took action in 2009 establishing a provisional health advisory level for PFOA of 400 parts per trillion (ppt) for short term (weeks to months) exposure and for PFOS of 200 ppt for short term exposure. These actions were likely in response to lawsuits against DuPont, the manufacturer of PFOA, which resulted in a 2005 $16.5 million dollar settlement with the EPA and later findings

of the C8 Science Panel (see pages 10-11) which established "probable links" to at least six serious human diseases from PFOA exposure of 50 ppt. In 2016, likely as a result of the heightened concern raised by the PFOA contamination of drinking water in Hoosick Falls, the EPA finally established a long-term exposure guideline for PFOA and/or PFOS in drinking water of 70 ppt. They continue to be unregulated contaminants.

For a full list of current unregulated contaminants see: https://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule. In addition to unregulated contaminants, concerns about a number of federally regulated contaminants were also raised at the hearings, for a full list of regulated contaminants see: https://www.epa.gov/ground-water-and-drinking-water/table-regulated-drinking-water-contaminants.

The federal Superfund Program is reserved for the nation's most hazardous waste sites. Under the federal Superfund Program, created as part of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), the EPA cleans up hazardous waste sites and forces the polluter to pay or reimburse the EPA for the costs of cleanup. In September of this year, the EPA announced that Saint-Gobain Performance Plastics was being formally considered for inclusion in the federal Superfund Program, with an open comment period expiring November 8, 2016. For a full list of current federal Superfund sites see: https://www.epa.gov/superfund/search-superfund-sites-where-you-live

The federal government also regulates and oversees bottled drinking water for safety and quality through the Food and Drug Administration (FDA). Under the federal Food, Drug, and Cosmetic Act, manufacturers are responsible for producing safe, wholesome and truthful labeled food products, including bottled water products. The FDA regulations allow low levels of some chemical, physical, microbial, and radiological contaminants. When these levels are exceeded, the label must state that it contains excessive levels of the contaminate to indicate that the quality standard has not been met. The FDA also periodically collects and tests water samples from manufacturers to ensure compliance. State and local governments may approve water sources for safety and sanitary quality. New York State's Department of Health testified that they oversee the quality of all bottled water sold in the state as well.

State Law, Regulation and Oversight

New York State Department of Health's (DOH) authority to regulate contaminants in drinking water is contained in Public Health Law §225. That statute defines a contaminant as any physical, chemical, microbiological or radiological substance or matter in water. Through regulations, the DOH sets forth maximum contaminant levels (MCLs), maximum residual disinfectant levels and treatment techniques, as well as public and state notification requirements. Upon discovery by a water supplier that one or more of the maximum contaminant levels has been exceeded, regulations require the supplier to notify the state and undertake a study to determine the cause of the contamination, treat the water if possible, begin sampling the water, investigate source water, and submit a report to the state within 30 days of beginning these measures.

An unspecified organic contaminant (UOC) is defined in state regulation as any organic chemical compound not otherwise specified. The MCL for UOCs is 50,000 ppt. The minimum

monitoring requirements for UOCs apply to community and non-community water systems and sampling requirements are set at the state's discretion, meaning the state can require monitoring when there is reason to believe the MCL has been or may be exceeded and such may present a risk to public health. If the results of a monitoring sample analysis exceed the MCL, state regulation requires the supplier of water to collect one to three more samples within 30 days, if at least one sample confirms, it is considered a MCL violation. UOCs are subject to Tier 2 notice requirements, meaning that public notification is required within 30 days of learning of a violation or a situation with the potential to have serious adverse effects on human health after long term exposure. State regulations do not establish a specific MCL for PFCs such as PFOA and PFOS, so until recently these compounds were treated as UOCs with an MCL of 50,000 ppt, despite the EPA short term level for PFOA of 400 ppt and for PFOS of 200 ppt established in 2009.

New York State's Department of Environmental Conservation (DEC) is responsible for measuring and reporting on the quality of water throughout the state, and also conducting targeted research projects. The DEC's statewide monitoring of water quality involves conducting regularly scheduled sampling of lakes, rivers and streams to identify water quality problems and issues. This monitoring effort is coordinated through the Rotating Integrated Basin Studies (RIBS) Program and conducted through a partnership with the US Geological Survey. The objectives of this monitoring program include assessing and reporting on the quality of the state's groundwater; identifying long-term groundwater quality trends; characterizing naturally occurring or background conditions; and establishing an initial statewide comprehensive groundwater quality baseline for future comparison. The program is designed to ensure all 17 of the major drainage basins in the state are monitored once every five years. The DEC evaluates monitoring results and issues water quality assessment of the state's waters. The DEC also sets standards and other criteria for many specific substances which impact water quality, including: chemicals (such as ammonia, chlorine, metals, salts, pesticides); biological substances (such as pathogens and problem species); and physical impediments (such as silt, oxygen demand/debt and water flow). These standards can be either narrative or numeric. In the absence of established water quality standards, numeric guidance values are derived and compiled in the Division of Water guidance.

The New York State Hazardous Waste Remedial Fund or state Superfund was established by Chapter 857 of the Laws of 1982. The purpose of the Superfund is to identify and characterize suspected inactive hazardous waste disposal sites, and to ensure that those sites which pose a significant threat to public health or the environment are properly addressed. Under the state Superfund Program, the state is obligated to make a good faith effort to identify the parties responsible for the contamination, and obtain agreement to either perform the necessary remedial activities or provide funding to the state to perform the remedial activities. If the state is not successful in doing so, the remedial work is performed by the DEC using state funds, and legal action is initiated by the state against the identified responsible party to recover the State remedial costs. The State Fiscal Year (SFY) 2016-17 Budget continued the state Superfund at an appropriation level of $1 billion over 10 years, or $100 million each year.

In January of 2016, the DEC utilized emergency rulemaking authority to classify PFOA as a "hazardous substance" allowing sites in Hoosick Falls to be classified as state Superfund sites and

for the investigation and remediation process to begin. In addition to the Saint-Gobain facility in Hoosick Falls, the DEC also declared Taconic Plastics, Stewart National Air Guard Base, and Gabreski Air National Guard Base as state Superfund sites in light of the PFOA or PFOS contamination at those locations.

In addition to the state Superfund, New York funds other important water quality initiatives. The SFY 2015-16 enacted budget established the NYS Water Infrastructure Improvement Act of 2015, which authorized the NYS Environmental Facilities Corporation (EFC) to provide $200 million in grants to municipalities for water quality improvement projects, including both drinking water and sewage treatment infrastructure. The SFY 2016-17 enacted budget provided an additional $200 million, increasing the total allocated spending to $400 million. This funding allows for grants of up to $3 million, or 60 percent of eligible project costs. In addition to grants, EFC provides interest-free and low-interest loans to communities to further reduce the cost of infrastructure projects. The State Water Quality Improvement Project (WQIP) Program is another competitive grant program to improve water quality, reduce polluted runoff and restore water bodies and aquatic habitats in each region of the state. There is a total of $35 million available under the WQIP. Furthermore, the Wastewater Infrastructure Engineering and Planning Grant Program administered by the DEC in conjunction with the EFC, offers grants to municipalities to help pay for the initial planning of eligible Clean Water State Revolving Fund (CWSRF) water quality projects.

While state funding is important in initiating remediation and filling gaps, polluters, corporate or otherwise, must ultimately be held responsible. During 2016 the state DEC entered into several consent orders with polluters. As a result of PFOA contamination in the Hoosick Falls area, the state entered into consent orders with Saint-Gobain and Honeywell requiring them to cover costs of the temporary and permanent water filtration systems and bottled water delivery to residents, to negotiate in good faith with local officials on future reimbursements, and conduct investigations. The state also recently entered into a consent order with Taconic Plastics to cover costs associated with remediation in Petersburgh.

Hearing Highlights

All who participated and the testimony offered at the hearings provided a unique insight into water contamination issues affecting the state. Below is a summary of some of the highlights from the hearings. Full written testimony and video can be found archived at https://www.nysenate.gov/ under the events tab as well as under the Senate Health Committee and Environmental Conservation Committee tabs.

PFOA and Hoosick Falls

Michael Hickey, Resident of Hoosick Falls
Mr. Hickey offered emotional testimony about how the death of his father and other community residents prompted his research into PFOA. Mr. Hickey's father worked for many years in the manufacturing plants in Hoosick Falls and ultimately died of kidney cancer. Mr. Hickey testified that it only took a few minutes on Google for him to find the connection between the chemicals used at the plants and cancer. Mr. Hickey is rightfully credited with taking the brave steps of testing local water and bringing the results to the attention of the Village, even against local opposition. As Mr. Hickey testified, there was no need to "recreate the wheel" as the science was already out there on the harms of PFOA thanks to the work of Robert Bilott, Esq. in West Virginia (see pages 10-11). Further, Mr. Hickey stated that even in small factory towns where federal regulations do not require testing for unregulated contaminants, it is common sense to test for chemicals that are used in the nearby plants.

David Borge, Village of Hoosick Falls Mayor
Mayor Borge testified as to when the Village Board first heard about the potential presence of PFOA in their drinking water, a chemical they admittedly had no knowledge of nor its potential dangers. Mayor Borge also provided a timeline of action, which is also available and updated monthly on the Village Website. Highlights from the timeline include:

- August 2014 – Michael Hickey met with Mayor Borge to request samples of the Village's municipal water be analyzed for presence of PFOA. The Village contacted Rensselaer County Department of Health (RCDOH) who contacted the NYS DOH, who ultimately told the village no samples were necessary.
- November 2014 – the Village received test results that revealed PFOA levels as high as 540 ppt. These results were reported to the NYS DOH and RCDOH.
- January 2015 – the Village received guidance from the NYS DOH that the presence of PFOA "at the levels detected in the supply wells and in finished water does not constitute an immediate health hazard…."
- November 2015 – the Village consulted with the EPA, which issues a letter recommending alternate water be provided to users of municipal water and that municipal water not be used for drinking or cooking.
- December 2015 –
    - December 17th - the EPA issued another letter clarifying that Hoosick Falls municipal water should not be used for drinking or cooking.

- December 18th – the NYS DOH issued a fact sheet stating that "health effects are not expected to occur from normal use of water" and "to reduce exposure from tap or well water … people should use bottled water for drinking and food preparation or install water filters." This fact sheet mentioned the EPA standard of 400 ppt, which it described as "temporary," but also continued to refer to the NYS DOH MCL drinking standard of 50,000 ppt for UOCs.

- January 2016 – the NYS DOH approved installation of a temporary water treatment system
  - January 27th - Governor Cuomo announced PFOA as a hazardous substance and classified Saint-Gobain location at McCaffrey Street as a state Superfund site.
  - January 28th - the EPA Region 2 issued a statement that while they work to complete a lifetime health advisory, private well water with levels greater than 100 ppt should not be used for eating or drinking
- March 2016 – the DEC entered into a consent order with Saint-Gobain and Honeywell.
- May 2016 – the EPA established a lifetime health advisory of 70 ppt for PFOA and/or PFOS.

Mayor Borge's testimony made it clear that despite constantly reaching out to state and federal regulators, the Village could not obtain clear direction and information. Mayor Borge also called for and highlighted the need for the establishment of a standard and consistent process and guidance to communities in addressing situations similar to that of Hoosick Falls.

Commissioner Howard A. Zucker, M.D., J.D., New York State Department of Health
Over the course of the three hearings, Commissioner Zucker and staff who accompanied him provided hours of testimony and responded to dozens of questions by legislators. The Commissioner stood by the Department's response to the PFOA contamination in Hoosick Falls, and provided a timeline of the Department's involvement, including conversations with the Village and County, water sampling and the communication of test results. Commissioner Zucker pointed to the "shifting federal guidance" and the absence of federal regulation as the basis of any confusion regarding the safety of Hoosick Falls drinking water.

Commissioner Zucker described the EPA's PFOA health advisory as "guidance" to state entities with a built in buffer, or margin of protection, meaning, according to the EPA, the advisory level is intentionally set below the level at which health effects could occur. Further, he explained that the PFOA advisory states that if the level of 400 ppt is exceeded, actions should be taken to reduce exposure. Specifically, Commissioner Zucker pointed out that the advisory does not indicated that the water supply should be taken offline or that alternative sources of water should be used. Commissioner Zucker stated the EPA "suddenly shifted policy in December 2015 and again in 2016," creating confusion and anxiety. Specifically, Commissioner Zucker pointed to the December 17th notice issued by EPA region 2, which was a do not drink recommendation. According to Commissioner Zucker, this was the first such notice in the history of the EPA. Commissioner Zucker also testified that within 24 hours, the Department issued its own notice "consistent" with the new EPA recommendation. Then in January, the EPA issued an advisory of 100 ppt only applicable to Hoosick, but the NYS DOH applied the standard across the state because otherwise, according to the Commissioner, it did not make sense. Commissioner Zucker highlights that in May 2016, when the EPA issued a lifetime advisory limit of 70 ppt, it again did not state that residents should not drink the water if such level is exceeded.

Commissioner Zucker highlighted the establishment of the Governor's Statewide Water Quality Rapid Response Team which is responding to emerging water contaminations throughout the state, such as the PFOS contamination in Newburgh. The "rapid response team" consists of the DEC Acting Commissioner Basil Seggos and the DOH Commissioner Dr. Howard Zucker acting as co-chairs, and includes the Secretary of State, the Commissioners of Agriculture and Markets, Office of General Services, Division of Homeland Security and Emergency Services and Homes and Community Renewal, the Chair of the Public Service Commission, the President of the Empire State Development Corporation and the President and CEO of the Environmental Facilities Corporation. Commissioner Zucker also announced that he has urged the EPA to act, and if necessary the Governor will advance legislation, to require public water systems serving less than 10,000 and private wells, both currently exempt from federal regulations, be tested for unregulated contaminants.

Commissioner Basil Seggos, Department of Environmental Conservation
Commissioner Seggos, and accompanying agency staff, also testified at all three hearings and fielded various questions from legislators. Commissioner Seggos discussed the Department's role in water contamination, the use of the Federal Clean Water Act, the state's Environmental Conservation Law to control water pollution, and the state Superfund law and Brownfield Cleanup Program, which are used to force cleanups of polluted sites. As it relates to Hoosick Falls, Commissioner Seggos claimed the "EPA made the situation worse by failing to regulate PFOA for 15 years, changing their recommendation for how to handle PFOA contamination, and offering guidance from EPA region 2 that conflicted with the guidance from EPA headquarters." Commissioner Seggos echoed the request of Commissioner Zucker, that the EPA reimburse the state for any cost related to the efforts in Hoosick Falls that they cannot recover from polluters. Commissioner Seggos testified that since November 2015, DEC established PFOA as a hazardous substance, declared Saint-Gobain as a state Superfund site, entered consent orders with Saint-Gobain and Honeywell, and has installed more than 830 individual treatment systems.

Robert Bilott, Esq., Taft, Stettinius & Hollister LLP
Mr. Bilott, an attorney with the law firm of Taft, Stettinius & Hollister LLP, is credited with bringing PFOA to the attention of the EPA and others with experience dating back to 1998. Mr. Bilott represented the Tennants, residents of a small community in West Virginia with a farm located downstream from a landfill used by a nearby DuPont factory. After losing 153 animals from suspicious aliments, the Tennants found Mr. Bilott who took their case. In the summer of 1999, Bilott filed suit in federal court against DuPont. Mr. Bilott discovered DuPont, which began using PFOA in 1951 and dumped 7,100 tons of PFOA sludge into unlined pits near its factory, had been conducting medical studies on PFOA for decades. By the early 1990s, DuPont was aware PFOA caused cancerous cells in animals. Further, DuPont was aware of the high concentrations present in factory workers, they were aware PFOA was present in local water supplies and in 1991 they set an internal safety limit of one part per billion (or 1,000 ppt) for PFOA. DuPont failed to share any of this information with the EPA. While the Tennant case was settled, thanks to Mr. Bilott's advocacy, the EPA ultimately settled with DuPont for $16.5 in 2005 for concealing its knowledge of PFOA toxicity and presence in the environment.

Mr. Bilott then brought a class action suit against the DuPont Company for thousands of Ohio and West Virginia residents who were exposed to PFOA in their drinking water. This suit resulted in DuPont paying $70 million, installing filtration plants and agreeing to fund an independent scientific study to determine whether there was a link between PFOA and any diseases. Mr. Bilott testified that out of this agreement, an independent panel of three highly-respected epidemiologists picked from each side—the C8 Science Panel—was selected and charged with looking at all available data to determine what diseases if any were linked to exposures of PFOA in their drinking water. The Panel studied a class of over 69,000 individuals who had consumed, for at least one year, water containing 50 ppt or more PFOA. After spending approximately 7 years and over $30 million on state of the art research, the C8 Science Panel determined that PFOA exposure among class members has "probable links" to six serious human diseases: 1) testicular cancer; 2) kidney cancer; 3) ulcerative colitis; 4) thyroid disease; 5) preeclampsia; and 6) high cholesterol. Mr. Bilott also testified that the C8 Medical Panel—which was charged with determining what, if any, medical monitoring/testing would be appropriate to detect the early onset of the six linked diseases among the class members- was also established out of the settlement and issued initial findings in 2013. The C8 Science Panel's findings are available at www.c8sciencepanel.org and the C8 Medical Panel's findings and recommendations can be found at www.C-8medicalmonitoringprogram.com

Mr. Bilott testified to his frustration in learning about the pushback from New York officials claiming that they do not know yet about the health effects of PFOA. On December 14, 2015, Mr. Bilott wrote the Mayor of Hoosick Falls and NYS DOH to warn that their message to the public that there was no risk from this contaminate in their water was inaccurate. Not only was there the decade old settlement with the EPA, an EPA short-term limit for exposure of 400 ppt established in 2009, the results of the C8 Science Panel which are public, but there were also other states like Minnesota which declared PFOA a hazardous substance a decade ago, or right next door in New Jersey which established a long-term exposure guideline in 2006. Mr. Bilott's testimony clearly demonstrated that the data was available to inform officials of the threat presented by this contaminate. Furthermore, Mr. Bilott testified that there is no confusion regarding the limits established by the EPA. In 2009, the EPA established a short-term exposure guideline of 400 ppt and then in 2016 the EPA finally established a long-term exposure guideline of 70 ppt, these two standards do not conflict. Mr. Bilott also testified that, in his opinion, the long-term exposure limit of 70 ppt is not low enough, keeping in mind the population studied by the C8 Science Panel – which found probable links to cancer and other serious health effects - had consumed drinking water with 50 ppt.

Rob Allen, Resident of Hoosick Falls

Mr. Allen is a teacher and parent of four living in Hoosick Falls. His testimony recounted his frustration with the NYS DOH for what he referred to as their "horribly sluggish" response to this corporate pollution. Particularly troubling was Mr. Allen's recount of his 2-year-old daughter Emma's life. Emma was nursed by her mother, who was drinking contaminated municipal water. According to Mr. Allen, Emma was then just three months old when news of the PFOA contamination made its way to the NYS DOH. When PFOA was declared a hazardous substance by the state 17 months later, Emma was 20 months old. At 21 months old, when blood testing was finally made available, Emma tested at over 100 ppb, more than double the level found in most adults. Mr. Allen pointed to messages residents were given that the presence of

PFOA "does not constitute an immediate health hazard" and that levels detected are "at least 50,000 times lower than PFOA exposures that are known to cause health effects in animals." Mr. Allen's story demonstrates the devastating impact the delayed response had on New York residents, particularly young children such as his daughter who could have avoided most of the contamination if a do not drink advisory were issued in the beginning.

Howard A. Freed, M.D.
Dr. Freed has 35 years of experience practicing medicine, with an interest in the health effects of man-made environmental chemicals. In 2008, Dr. Freed was appointed Director of the NYS DOH's Center for Environmental Health, also known as CEH, were he served for 3.5 years. CEH is the unit responsible for evaluation of the health effects of man-made chemicals such as PFOA. Dr. Freed testified that during his time at CEH he met much resistance in his efforts to change the culture of CEH from one that "found reasons to not act, to a culture that would more aggressively provide public health protection." Dr. Freed explained that since its inception, the physicians and scientists at CEH are and have been "minimizers" concerned primarily with unnecessarily alarming the public, and of the belief that "it is an error to take government action when a risk to human health has, in their judgment, not been sufficiently demonstrated."

David Engel, Esq., Nolan & Heller (Counsel for Healthy Hoosick Water)
Mr. Engel is an attorney with over 40 years of experience primarily focusing on environmental law and toxic exposure. Prior to entering private practice in 1988, Mr. Engel held a number of positions at DEC. Mr. Engel first became involved with PFOA in Hoosick Falls in December 2014, upon receiving a number of calls from residents concerned with the claim that PFOA levels of 450 ppt in their water did not present a threat to public health. Specifically, Mr. Engel testified that the Village website at the time alluded to the 50,000 ppt generic standard for unregulated chemicals NYS DOH used as a comparison to Village levels to inform the citizens. Mr. Engel testified that a simple online search lead him to the C8 Science Panel and Mr. Bilott, at which time he determined there was an issue in Hoosick Falls.

Mr. Engel established Healthy Hoosick Water and compiled a team of experts, and after the Mayor and the Village Board refused to meet with them, he began engaging the EPA and Saint-Gobain directly. Mr. Engel testified that the Village declined to get involved, stating that they did not want to get confrontational with Saint-Gobain. Further, Mr. Engel testified that after conversations with Saint-Gobain, it became clear from their statements that they have never been a "manufacturer, processor, distributor of user of PFOA *per se* anywhere in the United States," were false after employees explained that Saint-Gobain continued to use "formulations containing PFOA at least through 2014." He also testified that Saint-Gobain had results from groundwater sampling from its plant site showing levels as high as 18,000 ppt.

According to Mr. Engel's testimony, by December 1, 2015, Saint-Gobain had agreed to both a water treatment and a bottled water program. Subsequently, on December 2, 2015, the Village held a "meeting" at a local church. Mr. Engel testified that at this event the NYS DOH continued to suggest Hoosick Falls water posed no threat and handed out fact sheets stating "they did not expect health effects to occur from normal use of the water."

Mr. Engel provided a list of recommendations based on his experience in Hoosick Falls which included putting aside concerns about avoiding alarm and fully informing people as the best way to allow for early detection and response and ensuring state officials are current on scientific

literature. Mr. Engel further stated that while the EPA should be "called to task" for failing to establish a strict nationwide standard, New York does not need to wait for the EPA to act.

David Hassel, Engineer
David Hassel, an engineer formerly employed at the site of Saint-Gobain in Hoosick Falls, testified regarding his experience. In the late 1970's and early 1980's, Mr. Hassel designed and built three Teflon (PFTE) glass fabric coating towers at Saint-Gobain's McCaffrey Street plant and one fiberglass thread and yarn coating tower for the John Street plant. Mr. Hassel testified that Saint-Gobain began using PFOA in Hoosick Falls in 1955 and ended in 2014.

Mr. Hassel testified that he suffered from prostate cancer at a young age, and attributes his cancer to the breathing of PFOA vapor for 8 years while working at the McCaffrey Street plant. Mr. Hassel found it important to note that in the local factories, unlike DuPont where PTFE was made but not sintered, 99+% of PFOA used in his area was airborne when leaving the factories. In his testimony, Mr. Hassel discussed the process used to make PTFE glass cloth, during which the baking of organic materials and sending them up a stack usually results in those materials diluting into the air and going wherever the wind takes them, pointing out that unlike almost any other airborne contaminant, PFOA is highly hygroscopic in that it gathers up water, forms droplets and 95% of it will always fall to the ground no further than two miles from the stack.

Mr. Hassel discussed at length the C8 Science Panel conclusions, his concerns with Commissioner Zucker's references to his "future study of PFOA and health effects in Hoosick Falls" and warned that ignoring the results of the C8 Science Panel is a big mistake. Mr. Hassel points out that Hoosick Falls is too small and there are not enough individuals in Hoosick Falls to complete a study on PFOA health effects, whereas the C8 Panel had the statistical data necessary to draw conclusions about PFOA and its relation to cancer and other health effects. Given the inability to be able to create a large enough cohort of individuals, Mr. Hassel opined that NYS DOH's study of PFOA would be a waste of money as it has no possibility of coming to any conclusion.

Northrop Grumman Plume, Nitrogen Pollution and Other Issues Unique to Long Island

Commissioner Basil Seggos, Department of Environmental Conservation
Commissioner Seggos testified at the Long Island hearing held September 12, 2016 as to the steps the DEC has taken and is continuing to take to protect Long Island water. The Commissioner announced that the DEC had listed the Gabreski Air National Guard Base as a state Superfund site and that they were going to provide a total of $5 million to Stony Brook University's Center for Clean Water Technology to conduct research on removing emerging contaminants from drinking water, and administer grants to water suppliers for pilot programs. Furthermore, Commissioner Seggos testified that nitrogen pollution is one of the biggest threats to water quality in Long Island.

Commissioner Seggos further testified about the Northrop Grumman Superfund site in Bethpage, known as one of the state's largest and most significant hazardous waste sites. Commissioner Seggos indicated that since becoming Commissioner he has pushed the Navy and Grumman to expedite the cleanup of the massive plume. The DEC recently announced that they have begun

the process to pursue a natural resource damages claims against the polluters for the harm they caused to the environment and surrounding communities as a result of the pollution. Additionally, earlier in 2016, the DEC released an independent study required by a 2014 statute on the feasibility of hydraulic containment of the Grumman plume. After reviewing public comments, the DEC will determine the next major step in the remediation process.

Steve Bellone, Suffolk County Executive
Suffolk County Executive, Steve Bellone, provided testimony at the Long Island hearing. Mr. Bellone explained that Suffolk County is confronted with a variety of water quality challenges and he discussed at length Suffolk County's comprehensive efforts to "reclaim their water," specifically addressing the need and efforts necessary to address nitrogen pollution from cesspools and septic systems.

Mr. Bellone's testimony focused primarily on the financial implications that surround fixing the water quality issues that exist in Suffolk County. He indicated that there are vast areas in the County where sewering is not a practical or economical solution. To this day, nearly 3 out of 4 homes in Suffolk County are still unsewered. Given a vast majority of nitrogen pollution is derived from septic systems and cesspools on residential properties, the solution lies in the use of individual active treatment systems that treat for nitrogen, instead of cesspools and septic systems, which do not.

Mr. Bellone's testimony called for a financial plan to work on resolving the issue surrounding nitrogen pollution on Long Island. Mr. Bellone set forth various suggestions on how to begin reversing decades of nitrogen pollution, including changes to the County Sanitary Code to create the Responsible Management Entity. Moreover, Mr. Bellone called for the establishment of a county, state and federal working group to issue recommendations for a clear financing plan.

Michael J. Boufis, Superintendent of the Bethpage Water District
The Superintendent of the Bethpage Water District testified that 33,000 men, women and children that reside in Bethpage as well as their water district, have for years had to deal with the technical challenges and financial burden caused by groundwater contamination, while New York State remained silent and failed to provide the support, guidance and action that Bethpage so desperately needed.

Mr. Boufis testified that after years of dumping harmful industrial chemicals as part of routine military manufacturing, the contaminated Northrop Grumman plume, one of the largest and most concentrated groundwater plumes in the entire nation, has plagued Bethpage residents and their sole-source aquifer. Mr. Boufis further testified that the Bethpage Water District has spent over $20 million thus far and will need to spend about $20 million more on water treatment, replacement capacity and infrastructure upgrades in order to remediate the contamination once and for all. Moreover, Mr. Boufis indicated that the lack of support from state officials has resulted in Bethpage having to use legal action as a means of pursuit against Northrop Grumman and the Navy in an attempt to make them financially responsible. In sum, Mr. Boufis called for state leadership and commitment as well as financial assistance, and would like the state to pay for or compel Northrop Grumman to pay for the water treatment and infrastructure improvements carried out by the Bethpage Water District.

Stanley Carey, Vice Chairman of the Long Island Water Conference
Mr. Carey, Superintendent of the Massapequa Water District and Vice Chairman of the Long Island Water Conference, testified regarding Long Island's uniqueness as it relies entirely on water supplied through underground aquifers, which face unique challenges. Mr. Carey discussed the formation of the Long Island Commission on Aquifer Protection (LICAP), which was created in 2013 by a group of water utility representatives, elected officials and scientists, to assess the long-term health of Long Island's aquifer system and develop a blueprint for its protection.

Mr. Carey also testified that the main concerns that exist today surround the Northrop Grumman Navy plume, saltwater intrusion as well as PFOS and PFOA contamination. According to Mr. Carey, the water supply community is currently monitoring a variety of potential threats, including, 1,4-Dioxane, Volatile Organic Compounds, pharmaceutical and personal care products, nitrates and infrastructure issues.

Mr. Carey set forth specific recommendations for state action, including the following: restore funding for the state's industrial waste inspections to previous levels and provide funding to develop and expand WaterTraq, the new GIS based water quality database. Mr. Carey indicated that the database is not only of value to Long Island, but if successful, may be a model for a statewide system. Mr. Carey urged the establishment of any new government entity not interfere with the formation of LICAP and that such entity not be granted broad new powers over the aquifer.

George Hoffman, Setauket Harbor Task Force
Mr. Hoffman testified on behalf of Setauket Harbor Task Force, an all-volunteer, clean water, healthy harbors advocacy group located in western Brookhaven. When the Task Force was established, Mr. Hoffman indicated that it was very difficult for them to get answers to simple questions, such as what was the quality of Setauket Harbor's water and who has jurisdiction over the well-being of the Harbor. Mr. Hoffman indicated they found that there are many governing bodies that have some jurisdiction but no one agency could provide information about the entire health and resilience of the harbor. As such, Mr. Hoffman suggested that an entity be established or an entity be designated the "clearinghouse" for all information about the surface waters on Long Island.

Adrienne Esposito, Executive Director, Citizens Campaign for the Environment
Ms. Esposito, the Executive Director of Citizen Campaign for the Environment, testified about a wide range of issues including but not limited to pharmaceutical pollution in water, policy solutions, nitrogen pollution and emerging contaminants in drinking water, specifically 1,4-Dioxane. 1,4-Dioxane is an emerging contaminant of great concern in Long Island's groundwater. Historically, 1,4-Dioxane was used as an industrial solvent but today it can be found in up to 46% of personal care products, including detergents, stabilizer, dishwashing soaps, shampoos, cosmetics, deodorants and body lotions according to Ms. Esposito's testimony.

Ms. Esposito testified that in 2003, the EPA declared 1,4-Dioxane a probable human carcinogen but since then there has been no drinking water standard implemented by the EPA. The state of New York simply defaults to the catchall limit of 50 ppb. Ms. Esposito further testified that the

EPA has a health reference standard of .35 ppb. Ms. Esposito called on the New York State Health Department to create a specific standard for 1,4-Dioxane. Notably, this chemical has been found in over 40% of the Suffolk County Water Authority's public supply wells. Furthermore, Ms. Esposito called for the mandated removal of 1,4-dioxane from personal care products, a mandate that laundromats contain pre-treatment technologies that remove 1,4-Dioxane before discharge to the groundwater or to a sewage treatment facility and a mandate that the NYS DOH establish a drinking water standard for 1,4-Dioxane. Moreover, Ms. Esposito called for the state to implement stricter regulatory regulations for laundromats.

Recently, the Suffolk County Water Authority announced it had approval from the state Department of Health to build and use a treatment system to remove the chemical, 1,4-Dioxane which is the first of its kind approved in New York, however, Ms. Esposito continues to emphasize the importance of an EPA and/or state regulatory standard for the contaminant.

Jennifer Garvey, Associate Director of the New York State Center for Clean Water Technology at Stony Brook University

Ms. Garvey, the Associate Director of the New York State Center for Clean Water Technology at Stony Brook University testified that their Center is charged with developing and commercializing more cost-effective technologies to address the water quality degradation issues their region is facing. The Center's initial efforts have been focused on removing nitrogen and other contaminants from wastewater at the household scale. They've been working on developing affordable, high performance systems that can replace or retrofit cesspools and septic systems.

Ms. Garvey further testified that their team is preparing to install its first set of experimental pilot systems at Suffolk County residences as part of the Suffolk County Department of Health's Services' Innovative Alternative Pilot Program. Furthermore, Ms. Garvey concluded that given Long Island is poised to become an epicenter for enhanced decentralized wastewater treatment, continued investment by the state to create and support the conditions necessary to propel innovation and improve the cost-effectiveness of solutions is likely to produce significant and lasting results.

Corporate Polluters

As previously mentioned, Honeywell, Saint-Gobain and Taconic Plastics were all invited to testify at the hearings. After their failure to attend, the Chairs of the Senate Committees sent a list of interrogatories followed by a subpoena duces tecum served on each corporation. The corporations provided initial responses and the Committees requested further documentation to ensure all relevant, unprivileged documents are provided. Review of the initial documents provided confirm, in at least one instance, state agencies were notified in 2005 about PFOA levels of concern. Further, documents reveal that the Hoosick Falls factories had a number of corporate owners since the 1950-1960's, when PFOA started being used in the facilities. As the state moves forward in holding the corporations accountable and recouping costs associated with the cleanup through the Superfund Program, the state must ensure it is pursuing all liable parties.

State Action to Date

Below is an overview of actions taken by New York State to date in response to the recent water quality crises. While some of the initiatives listed may have statewide impact, they are broken down by regions based on when they were initiated.

Hoosick Falls

- In April 2015, the DOH offered to collect and analyze water samples from some private wells in the area. In June 2015, the DOH began the sampling of private wells in the Town outside the Village. Results were provided in August and September.
- On January 27, 2016, Governor Cuomo announced he was issuing an emergency regulation to classify PFOA as a hazardous substance.
- In February of 2016, the Governor announced the creation of a Statewide Water Quality Rapid Response Team charged with identifying and developing plans to swiftly address critical drinking water contamination concerns.
- In January 2016-March 2016, the DOH began remediation in the Village of Hoosick Falls by installing temporary filtration systems for the municipal water and for private wells.
- In February 2016, Saint-Gobain Performance Plastics plant was declared a state Superfund site.
- The DOH began blood testing Hoosick Falls residents in February 2016.
- In March of 2016, the DOH distributed information to Village residents regarding protocols for flushing household piping. Village flushing activities were completed during the week of March 7, 2016.
- On March 30, 2016, DOH lifted the "no-drink" advisory.
- On June 1, 2016, DEC and Saint-Gobain entered a consent order.
- On June 2, 2016, DEC and Honeywell International, Inc. entered a consent order.
- On July 21, 2016, the Governor signed into law a bill Senator Marchione introduced in response to the water crisis in Hoosick Falls which authorized the tolling of the statute of limitations in personal injury claims resulting from contact with ground water contaminated by substances, compounds or toxins.
- On August 30, 2016, the Senate held a public hearing at Hoosick Falls Central School District.
- The state announced that a permanent treatment system is set to be completely installed by the end of 2016 and about 1,000 treatment systems for private wells have already been installed.
- On Monday August 29, 2016, the DEC declared municipal landfills in the Village of Hoosick Falls to be potential state Superfund sites.

Newburgh

- The DEC and the DOH transitioned the City of Newburgh to a clean, alternative drinking water supply (Brown's Pond in May and Catskill Aqueduct in June).
- The state committed to fund all Catskill Aqueduct water payments and advanced the first $2.4 million payment to the city in September 2016.
- The state committed to the completion of a Granular Activated Carbon (GAC) filtration system to remove PFOS from Lake Washington by the fall of 2017.
- The state committed to design upgrades to the Catskill Aqueduct connection at the city's alternate water source pump station to be completed by winter 2016/2017.
- On August 12, 2016, the DEC declared the area near Stewart Air National Guard Base a state Superfund site, holding the U.S. Department of Defense responsible for full site clean-up.
- In August of 2016, the DEC informed the Mayor of Newburgh that they had tasked a New York State standby remedial contractor under the state Superfund Program to implement a plan to lower water levels in Lake Washington. The contractor began work on August 22nd drawing down Lake Washington—by pumping it, filtering it, and discharging clean water into the watershed—to ensure the integrity of the dam.
- By October of 2016, the state had launched a fish sampling program to better understand the extent of contamination in the watershed, and initiated an updated source water assessment for the watershed. Results from the sampling are expected by the early spring of 2017.
- Voluntary blood-testing of Newburgh residents began on November 1, 2016.

Petersburgh

- On March 8, 2016, at the direction of the Governor, the DEC and the DOH reached an agreement with Taconic Plastics, Inc. to install a carbon water filtration system for the Town of Petersburgh water supply to address PFOA contamination.
- Beginning in April 2016, the DOH offered blood testing for PFOA to residents of the Petersburgh area.
- On Thursday, May 19, 2016, the DEC declared Taconic Plastics in Petersburgh a state Superfund site.
- On August 29, 2016, the DEC declared municipal landfills in the towns of Petersburgh and Berlin to be potential state Superfund sites.
- On November 10, 2016, the DEC and Taconic Plastics entered a consent order.

Long Island

- In July 2016, the DEC identified Gabreski Air National Guard Base as a potential state Superfund site and began working closely with Suffolk County to ensure residents were fully informed, given access to bottled water, and quickly connected to the municipal water supply.
- In September of 2016, after an investigation and testing by the Statewide Water Quality Rapid Response Team, the DEC declared Gabreski Air National Guard Base a state Superfund site.
- On September 12, 2016, the state announced it will approve a pilot program for use of cutting-edge drinking water treatment technology to remove 1,4-Dioxane.
- Additionally, on September 12, 2016, the state announced it would provide $5 million for SUNY Stony Brook's Center for Clean Water Technology to develop state-of-the-art emerging contaminant treatment systems for drinking water.
- Also on September 12, 2016, the Senate and Assembly held a joint hearing in Long Island to address the water quality issues.

Northrop Grumman Site

- In 1983, Northrop Grumman was listed on the Registry of Inactive Hazardous Waste Disposal Sites in New York State.
- After years of advocating for the DEC to study and report on methods to contain and remediate the contaminated plume, the Senate and Assembly passed legislation that was enacted in 2014 to require this study.
- In January 2016, Governor Cuomo ordered the U.S. Navy and Northrop Grumman to provide the state and local water district access to monitoring wells to test for potential contamination caused by a toxic underground plume ultimately to help restore and protect underground aquifers.
- In order to further protect the groundwater resources on Long Island, in February of 2016, the Governor announced he was directing $6 million to study the effective management of this finite resource.
- On February 18, 2016, Governor Cuomo announced that the state had begun testing samples from the Northrop Grumman plume on Long Island.
- In July of 2016, the DEC released a Remedial Options Report.

Responses in Other States

Many states have established health advisory levels for PFOA in drinking water (see table below).[1]

State Guideline Values for PFOA

State	Guideline Value (µg/L)	Source
Delaware Department of Resources and Environmental Control	0.4	DNREC (2016)
Maine Department of Health and Human Services	0.1	Maine DHHS (2014)
Michigan Department of Environmental Quality	0.42	Michigan DEQ (2013)
Minnesota Department of Health	0.3	MDH (2009)
New Jersey Department of Environmental Protection	0.04	NJDEP (2014)
North Carolina Division of Water Quality	2	NCDEQ (2013)
Vermont Agency of Natural Resources	0.02	Vermont ANR (2016)

(note: 1 µg/L = 1 ppb = 1,000 ppt)

In addition to establishing PFOA health advisories or guidance, a number of states have taken further action to regulate PFOA and deal with emerging water contamination issues. The following states are a few examples:

Vermont

Following news in early 2016 of PFOA-contaminated municipal water wells in Hoosick Falls, New York, and concerns about the former Chemfab property in North Bennington, the Vermont Department of Environmental Conservation sampled drinking water in North Bennington municipal water supply and found PFOA at high levels of concentration.[2] Vermont's Health Department issued emergency regulations in September of 2016 which set PFOA level at 20 ppt for drinking water.[3] The Health Department based the calculations on the same science that EPA used, but Vermont accounts for exposure to children early in life. On December 16, 2016, a rule listing PFOA and PFOS as a hazardous waste when at concentrations of 20 ppt or greater was adopted and took effect on December 31, 2016.[4]

Officials in Vermont set up a hotline for concerns, questions and to request well testing, and established a bottled water program. The State of Vermont's investigation and response continues and includes testing in additional areas of the state.[5]

New Jersey

The New Jersey Drinking Water Quality Institute (DWQI), established by the 1984 amendments to the New Jersey Safe Drinking Water Act (SDWA), is charged with developing standards MCLs for hazardous contaminants in drinking water and for recommending those standards to

[1] https://www.epa.gov/sites/production/files/2016-05/documents/pfoa_health_advisory_final-plain.pdf
[2] http://dec.vermont.gov/sites/dec/files/documents/PFOASummaryForLegislatorsvFINAL3.25.16.pdf
[3] http://dec.vermont.gov/sites/dec/files/co/pfoa/documents/2016_12_23-Interim-Standard-Under-GWPR%26S-VHWMR.pdf
[4] http://dec.vermont.gov/sites/dec/files/wmp/HazWaste/Documents/Regulations/2016_12_16VermontHWMRAdopted.pdf
[5] http://healthvermont.gov/enviro/pfoa.aspx

the New Jersey Department of Environmental Protection (NJDEP). Three subcommittees within the Institute were established to address the essential considerations for development of MCLs.

New Jersey originally discovered PFOA in a public water supply in Salem County in early 2006. In 2007, a health-based drinking water guidance level of 0.04 ppb (or 40 ppt) was developed by the NJDEP to provide guidance in assessing the public health implications of the PFOA concentrations detected in their drinking water.[6] Subsequently, the DWQI voted to pursue development of a MCL recommendation for PFOA in 2009. On March 21, 2014, NJ DEP Commissioner requested that the DWQI recommend an MCL for PFOA. On June 27, 2016, the New Jersey Drinking Water Quality Institute Health Effects Subcommittee recommended setting a health-based MCL of 14 ppt.[7] Moreover, the NJ DEP also issued an emergency response plan template for community water systems, which among other things, deals with water system contingencies and prioritization.[8]

Minnesota

In 2004 in Minnesota, PFCs were first found to have contaminated drinking water supplies in parts of the eastern Twin Cities. Subsequent to the EPA updating their federal health advisory level for PFOS and PFOA in 2016, the Minnesota Department of Health began reviewing the studies and methods used by the EPA to determine whether its own health-based values needed to be lowered, and if so, what the values should be. Minnesota's existing Health Risk Limit, which represents the level of chemicals in drinking water that the department considers safe for people, is currently 300 ppt. Minnesota's Department of Health has the authority to set health risk limits when groundwater quality monitoring results show the presence of contaminants.[9]

California

California has not set a regulatory standard for PFOAs, however, in September 2016, the California EPA's Office of Environmental Health Hazard Assessment issued a notice of intent to list PFOA and PFOS as "known to the state to cause reproductive toxicity under the Safe Drinking Water and Toxic Enforcement Act of 1986" (also known as Proposition 65) based on the US EPA's 2016 health advisories for PFOA and PFOS.[10]

In 1999, California discovered Chromium-6 in some public water supplies. In 2000 the state passed legislation and began the process of studying and monitoring Chromium-6 in drinking water. In 2014, California's Department of Public Health established a MCL for Chromium-6 of 10 ppb, and created requirements including monitoring of certain public water supplies for the substance. During that time, California had a drinking water MCL of 50 ppb for total Chromium, which Chromium-6 fell under. In 2011, the EPA included Chromium 6 in its UCMR 3, which requires testing in certain public water supplies nationwide.[11]

[6] http://www.nj.gov/dep/watersupply/pdf/pfc-study.pdf
[7] http://www.nj.gov/dep/watersupply/pdf/pfoa-hb--mcl-public-review-draftwithappendices.pdf
[8] http://www.state.nj.us/dep/watersupply/pdf/dwerp.pdf
[9] http://www.health.state.mn.us/divs/eh/hazardous/topics/pfcs/current.html#Example1
[10] http://www.swrcb.ca.gov/gama/docs/pfoa.pdf
[11] http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Chromium6timeline.shtml

Recommendations of the Committees

After hearing the testimony and opinions of various individuals, the Senate Health and Environmental Conservation Committees recommend the following as a means to prevent what happened in Hoosick Falls from occurring in the future:

Drinking Water Quality Institute

While the Executive's establishment of a Rapid Water Quality Response Team is a start, there is still a much broader need for an independent entity charged specifically with focusing on the clean drinking water needs of the state. Similar to the Institute New Jersey established, which has been successful in setting contaminate levels and requiring testing to protect its state's drinking water, this body would be composed of public health experts, scientists, water purveyors and the Commissioners of the DEC and the DOH. Pulling together these experts to focus solely on the state's drinking water quality issues is a common sense approach to moving the state forward and ensure we make sound, informed decisions regarding drinking water quality. The institute would be charged with, among other things:

- Setting NYS specific requirements for unregulated contaminants that are more stringent than those under federal law or EPA health advisories by establishing maximum levels for contaminants of concern, and developing a list of contaminants for which testing is required by all public water suppliers;
- Establishing a clear notification process for municipalities and state agencies which must include clear and concise documents to be utilized to inform and guide the public regarding water quality issues and actual or potential threats; and
- Conducting scientific studies or scientific based research as well as conducting public outreach, and ensuring state officials are educated and aware of the most up-to-date scientific research regarding water quality and contamination.

Immediate Agency Actions

There are a number of actions the agencies can and should take under their current authority, aside from the tasks delegated to the Drinking Water Quality Institute. These actions include:

- Creating a reverse 911 system or other system to handle complaints, potential threats and hazards relating to drinking water contamination in real time;
- Creating a guidance document for the public and local municipalities outlining steps to be taken if they discover or suspect contamination;
- Pursuing all previous owners potentially responsible for the contamination to ensure they are held accountable and appropriately pay for remediation costs through the state

Superfund Program and pursue options for covering the costs of medical monitoring for those at high risk;

- Increasing transparency and enhance interagency communication both amongst agencies within the state, neighboring states that are also grappling with the same issues, and federal agencies;
- Ensuring the state is adhering to health advisory levels instituted by the federal government;
- Providing the most recent cancer registry data on the State's Cancer Map, including an overlay of water sources so researchers and the public have the most accurate up-to-date information;
- Adopting a precautionary approach to protecting public health especially in instances where conclusive proof is likely unascertainable;
- Assuring through continuing education that staff is abreast of current scientific literature, guidance, and national standards; and
- Ensuring strong oversight and enforcement of current SPDES permits.

Funding

Throughout the hearings, there were continual calls for increased funding for a large variety of water quality measures ranging from funding for schools to replace old pipes found to contain lead, upgrading and evaluating wastewater treatments, tax deductions to replace old septic systems and funding to install individual activated treatment systems that treat nitrogen, to funding to address algae blooms. In order to try to meet these vast needs, the Executive should include funding in the 2017-18 budget and provide flexibility to address the varying needs of different communities throughout the state. This year's budget should also include a continuation of funding to support the state Superfund Program and continue to support the NYS Water Infrastructure Improvement Act of 2015, which authorized grants for municipalities to undertake water quality improvement projects.

Additionally, to meet ever growing needs of the state's aging water and sewage systems, the state should establish a Clean Water Bond Act. This will enable smaller and more rural communities to improve their water infrastructure without taking out loans, thereby preventing any costs being passed on to the residents. These funds could be available for implementation of new filtration systems, water testing, and other measures for areas that suspect or know they have a contamination issue and have not yet received the Superfund status that would make them eligible for such state funding.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